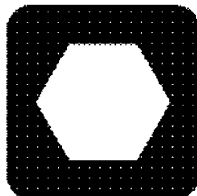


2300

Parts Manual



Ditch Witch®

2300

ISSUE NO. 12PL-05/88

For Replacement Copy Order **P/N 050-616**

This manual contains information concerning the following models:
2300 Trencher

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FOREWORD

Ditch Witch equipment is designed and manufactured to give years of dependable service. This manual helps ensure that by giving you an illustrated Parts List from which to select quality Ditch Witch replacement parts.

When ordering, use part numbers and descriptions (not reference numbers), and refer to the model and serial number of your equipment.

Read all footnotes carefully. Part numbers shown in reverse type (white on black) are not available from The Charles Machine Works, Inc. However, information concerning fabrication or alternate suppliers may be obtained by contacting our Technical Services department. If parts are listed N.A. they are to be replaced by redesigned parts as shown, or no further information is available.

Ordinary vendor items should not be substituted as replacement parts because of variances in grades of materials. Repair or replacement parts should be ordered from your authorized Ditch Witch dealer.

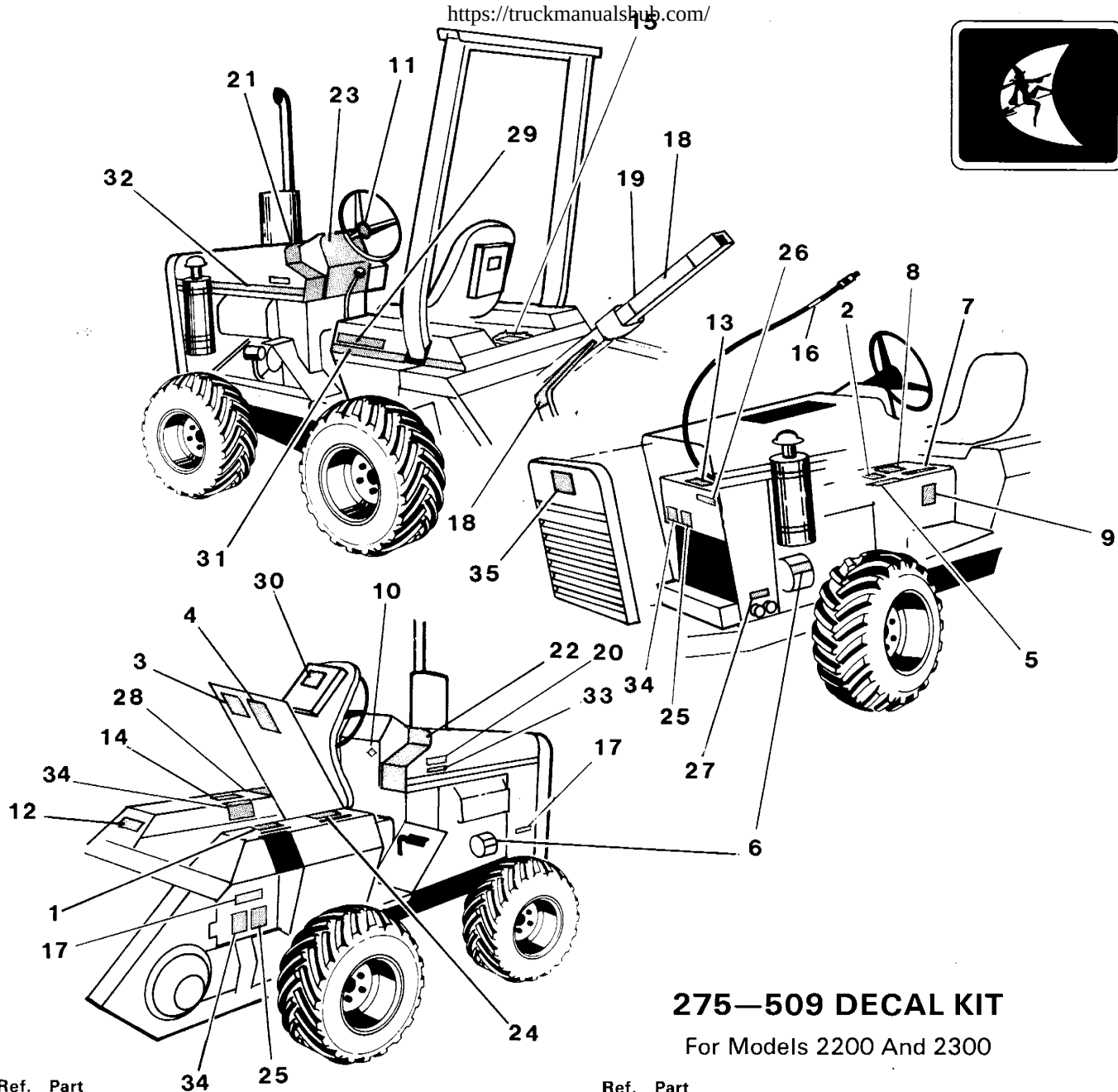
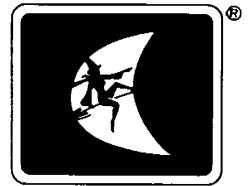
Instructions on safely using and maintaining this equipment appear in the Operator's Manual for your Ditch Witch machine. If you have questions not answered in these publications, your dealer representative will be glad to assist you.

The descriptions and specifications in this manual are subject to change. The Charles Machine Works, Inc., reserves the right to modify equipment at any time as part of normal product improvement.

Thank you for your patronage and confidence in Ditch Witch equipment.

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275—509 DECAL KIT

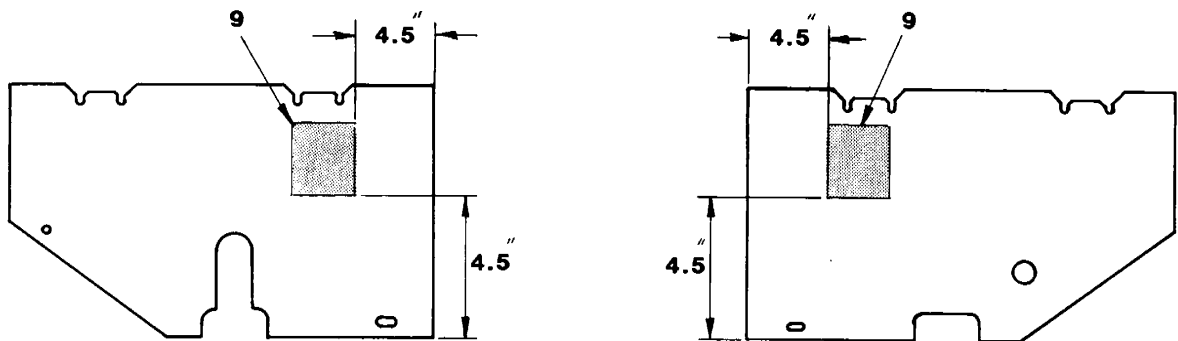
For Models 2200 And 2300

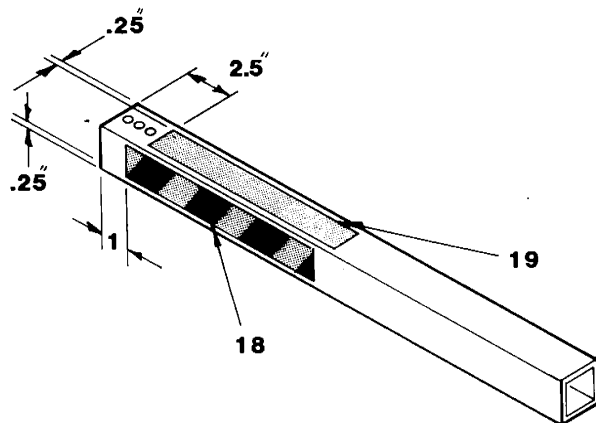
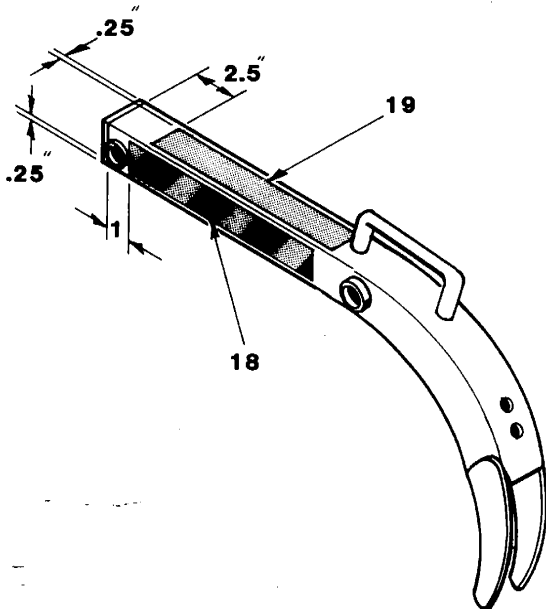
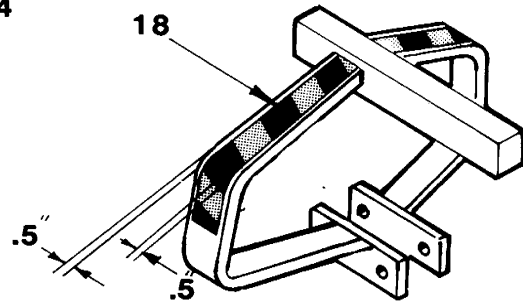
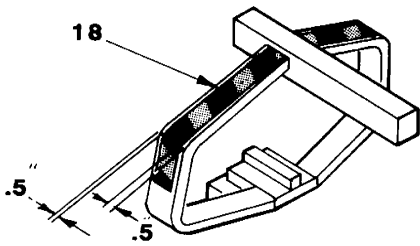
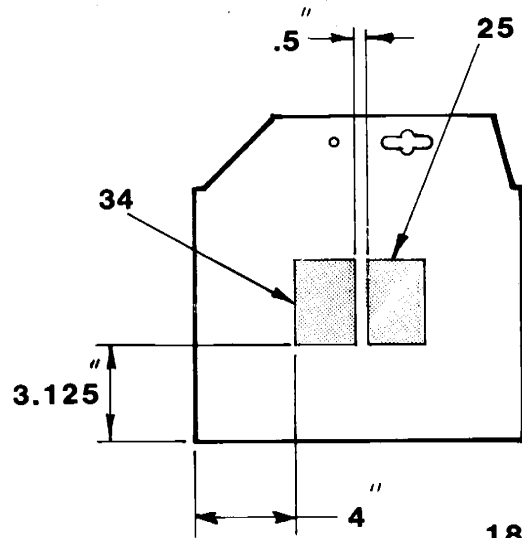
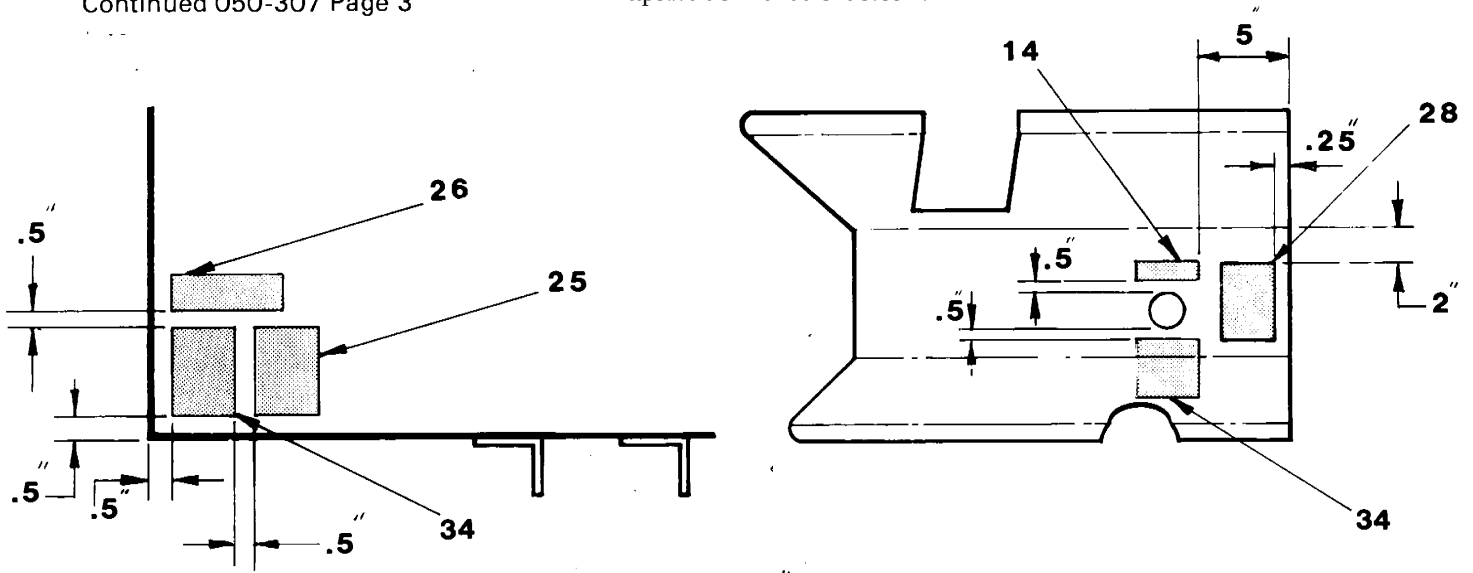
Ref. No.	Part Number	Qty.	Description
	050-307		Location Diagram
1.	275-012	1	Digging Chain Clutch
2.	275-019	1	Transmission
3.	275-021	1	¹ Notice Guide Alignment
4.	275-022	1	Notice Belt Adjustment
5.	275-024	1	Parking Brake
6.	275-033	1	Notice Alternator
7.	275-042	1	Mobile & Dig
8.	275-048	1	Important Safety Rules
9.	275-070	2	Danger Runaway
10.	275-087	1	Ignition Switch
11.	275-089	1	Steering Cap Plaque
12.	275-097	1	Danger Chain & Auger
13.	275-120	1	Reservoir
14.	275-148	1	Fuel Tank (Diesel)
	275-173	1	Fuel Tank (Gasoline)
15.	275-184	1	Warning Moving Parts
16.	275-195	1	² Return
17.	275-203	1	Battery
18.	275-230	4	Warning Stripe (2" x 18")
19.	275-232	1	Danger (2" x 18")
20.	275-238	2	2200 Model-ID
	275-253	2	2300 Model-ID

Ref. No.	Part Number	Qty.	Description
21.	275-239	1	Left Console Panel
22.	275-240	1	Right Console Panel (Gasoline)
	275-330	1	Right Console Panel (Diesel)
23.	275-242	1	Instrument Panel (2200 Gasoline)
	275-254	1	Instrument Panel (2300 Gasoline)
	275-365	1	Instrument panel (2300 Diesel)
24.	275-244	1	Crowd Speed/Direction
25.	275-245	1	Caution Battery Acid
26.	275-246	1	Ignition Timing (2200)
27.	275-278	1	Manifold (Option)
28.	275-303	1	Danger Rollover
29.	275-309	2	Ditch Witch®-ID
30.	275-310	1	Ditch Witch Emblem
31.	275-312	2	Accent Stripe (1" x 29")
32.	275-312	2	Accent Stripe (1" x 36-3/4")-2200
	275-312	2	Accent Stripe (1" x 39-1/2")-2300
33.	275-364	2	Diesel-ID (Deutz)
34.	275-419	2	Warning Flammable
35.	275-449	1	Ditch Witch Emblem Plaque

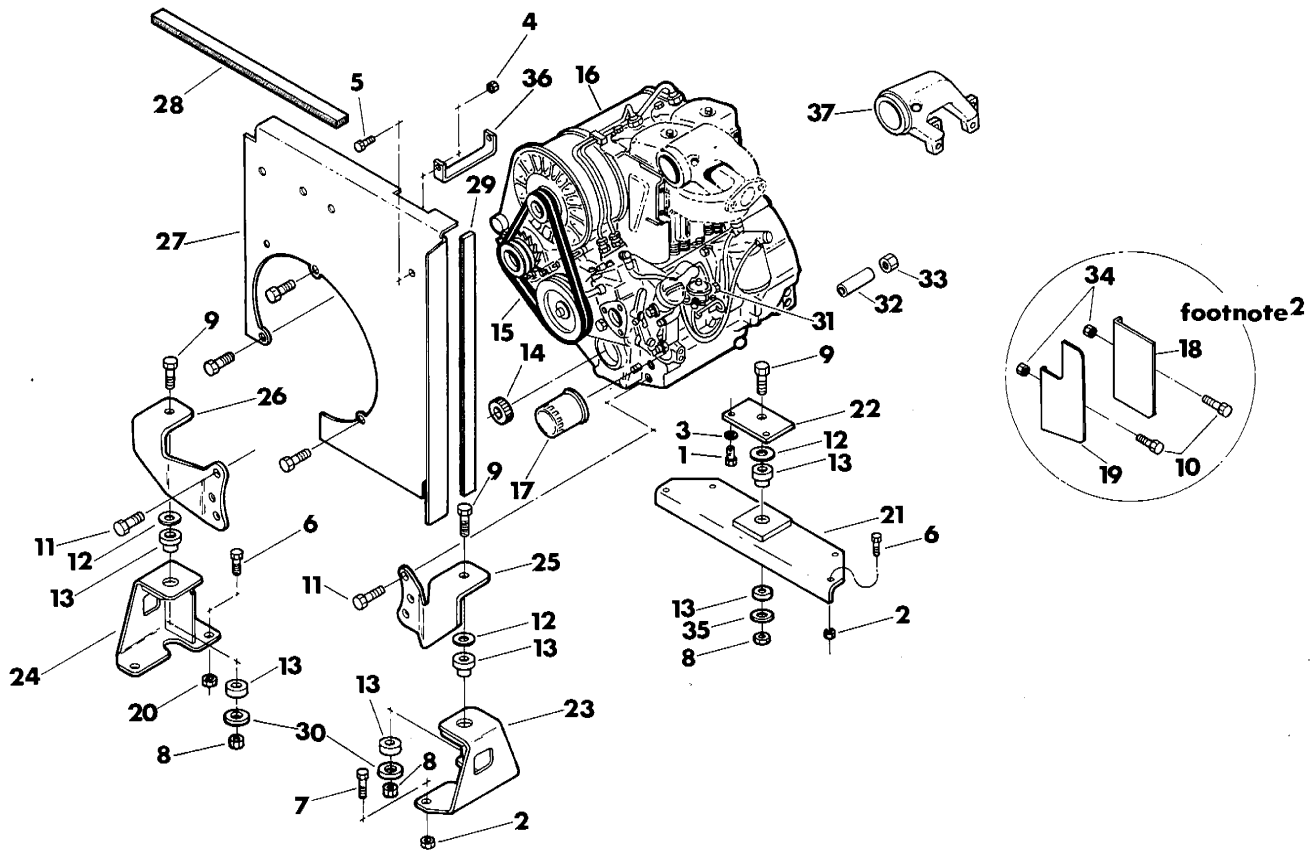
¹Not part of kit. This Decal is required on Model:
S/N 239899 thru 241439.-2200
S/N 300295 and below.-2300

²Begins with S/N 3B0843 and above.





DEUTZ DIESEL ENGINE



Ref. No.	Part Number	Qty.	Description
1.	105-031	2	Bolt (3/8-NC x 1")
2.	105-065	4	Locknut (1/2-NC)
3.	105-072	2	Lock Washer (3/8")
4.	105-003	1	Flange Locknut (5/16-NC)
5.	105-822	1	Flange Lock Bolt (5/16-NC x 1/2")
6.	105-208	4	Bolt (1/2-NC x 1-1/4")
7.	105-830	4	Flange Bolt (1/2-NC x 1")
8.	105-357	3	Locknut (5/8-NC)
9.	105-407	3	Bolt (5/8-NC x 4")
10.	105-090	4	Bolt (5/16-NC x 3/4")
11.	105-840	6	Bolt (M14-2.0 x 40mm)
12.	105-931	1	Washer
13.	116-127	3	Shock Mount Set
14.	165-082	1	Pump Gear
15.	170-036	1	Belt Set (2 per set)
16.	195-805	1	Engine
17.	195-806	1	Oil Filter Element
18.	300-935	1	'Left Rear Engine Baffle
19.	300-934	1	'Left Front Engine Baffle
20.	105-833	4	Flange Locknut (1/2-NC)
21.	300-911	1	Rear Mount

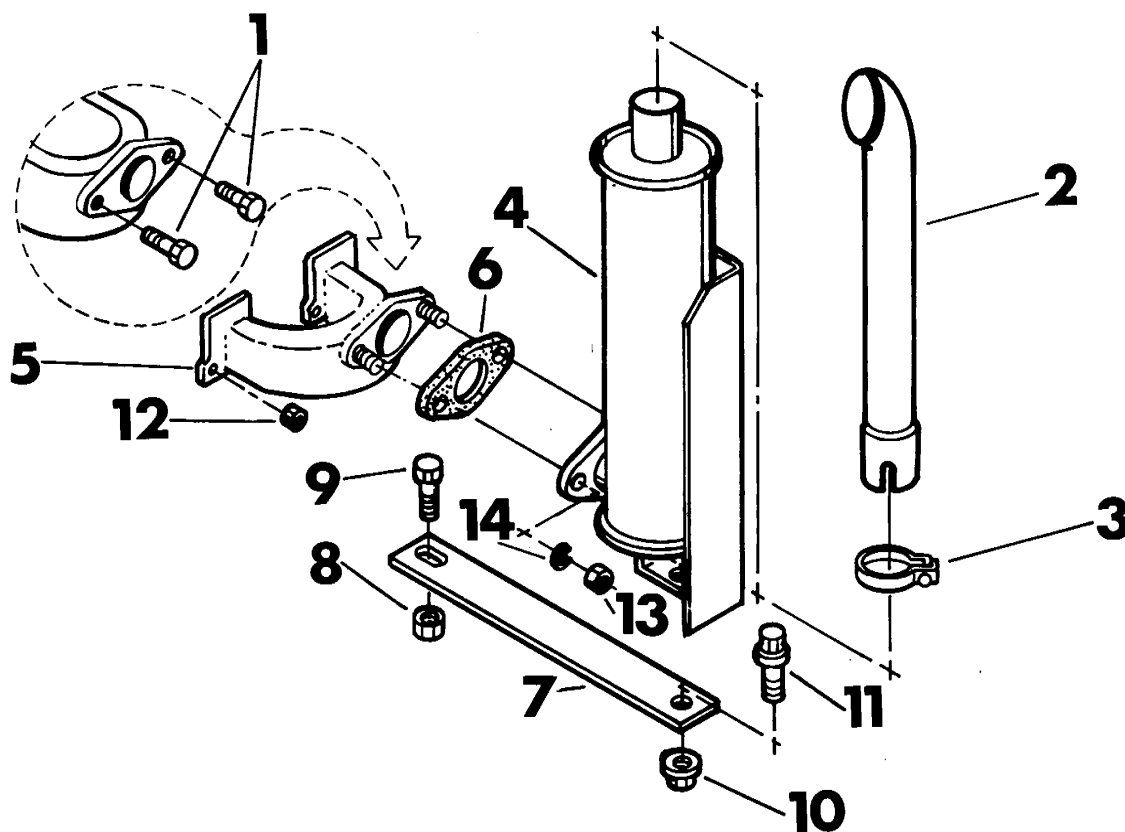
Ref. No.	Part Number	Qty.	Description
22.	300-914	1	Transmission Mount Bar
23.	300-915	1	Left Mount Support
24.	300-916	1	Right Mount Support
25.	300-921	1	Left Engine Mount
26.	300-922	1	Right Engine Mount
27.	300-933	1	Engine Intake Baffle
28.	115-380	1	'Weather Stripping (3/8" x 3/4")—use 12"/for early models
	115-399	1	'Weather Stripping (1/4" x 3/4")—use 12"
29.	116-103	1	'Weather Stripping (1" SQ)—use 12"
30.	105-964	2	Washer (5/8")
31.	105-877	2	Bolt (3/8-NC x 5-3/4")
32.	181-479	2	Mount Spacer
33.	105-047	2	Locknut (3/8-NC)
34.	105-089	1	Locknut (5/16-NC)
35.	105-964	1	Washer (5/8")
36.	300-957	1	'Support Brace
37.	195-835	1	Air Intake Manifold

'Weather stripping and support brace (ref. no.'s 28, 29 and 36) replaces side baffles (ref. no.'s 18 and 19). Refer to Item 1 of Technical Bits dated 10/17/85.

MUFFLER

DEUTZ DIESEL ENGINE

(Early Style)



Ref. No.	Part Number	Qty.	Description
1.	105-806	2	Bolt (M8-1.25 x 25mm)
2.	196-002	1	Exhaust Tail Pipe
3.	196-003	1	Muffler Clamp
4.	196-059	1	Exhaust Muffler
5.	195-822	1	Exhaust Manifold
6.	195-834	1	Exhaust Gasket (asbestos)
	195-847	1	Exhaust Gasket (non-asbestos)
7.	361-804	1	Muffler Brace Strap
8.	105-089	1	Locknut (5/16-NC)

Ref. No.	Part Number	Qty.	Description
9.	105-094	1	Bolt (5/16-NC x 1")
10.	105-814	1	Flange Locknut (3/8-NC)
11.	105-825	1	Flange Lock Bolt (3/8-NC x 3/4")
12.	105-894	2	Locknut (M10-1.5)
13.	105-894	2	Locknut (M10-1.5P)
14.	105-158	4	Cam Lockwasher (3/8")

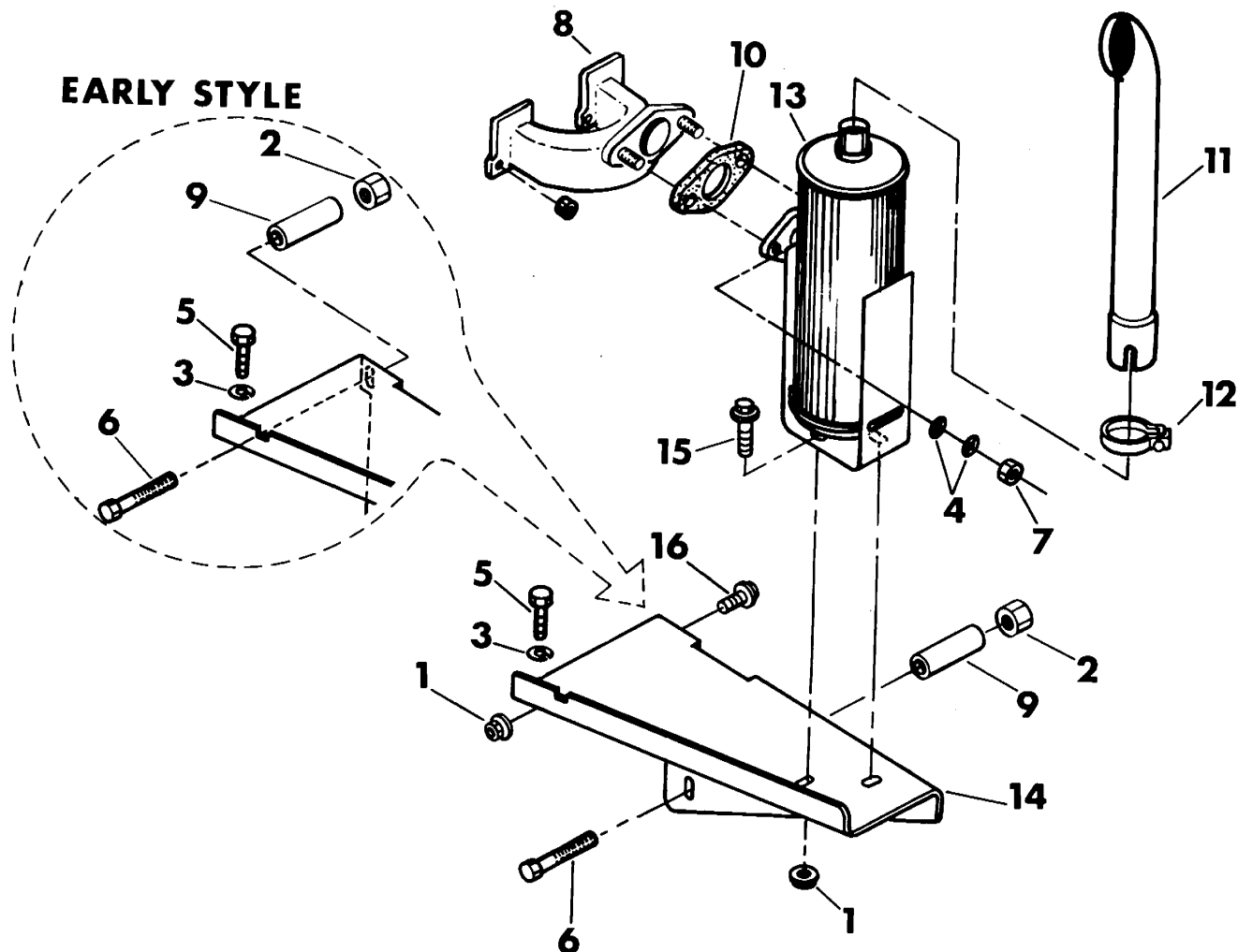
¹Replacement mufflers will require brace strap and hardware (ref. no.'s 7 thru 11).

MUFFLER

DEUTZ ENGINE

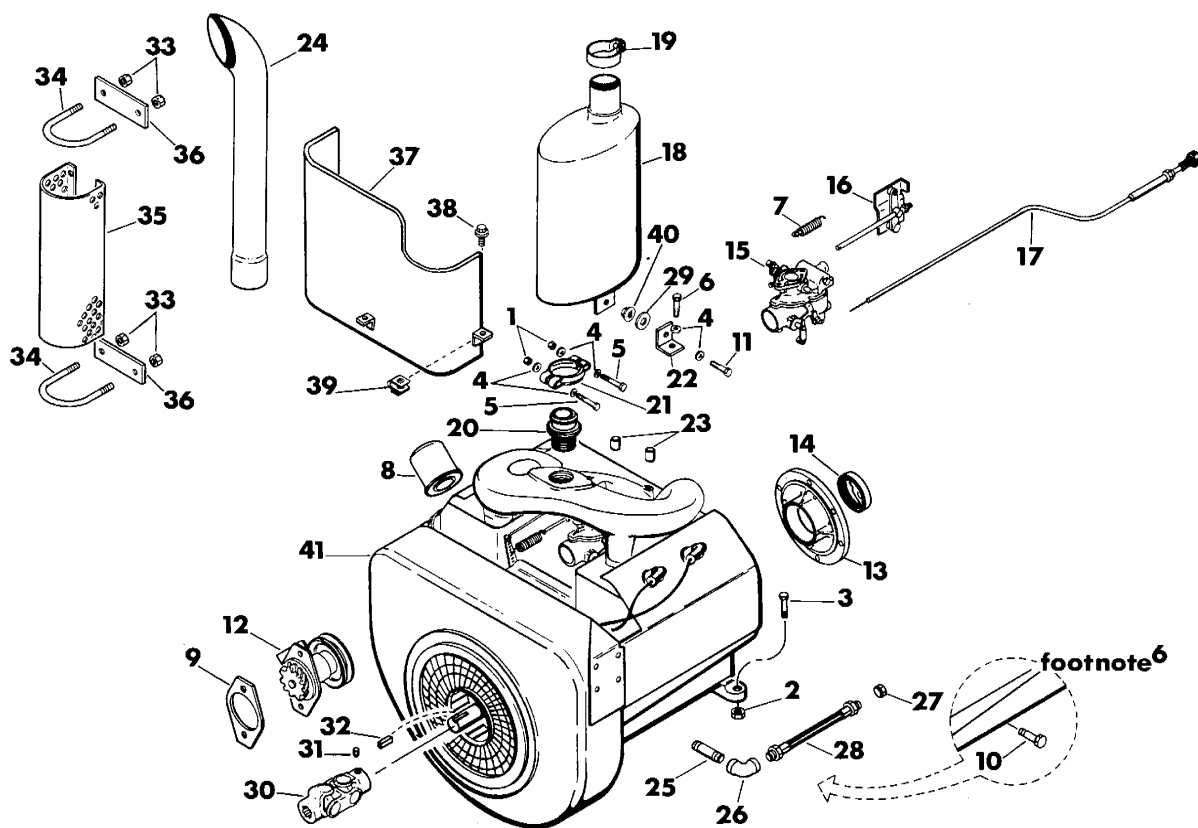
(Present Production)

EARLY STYLE



Ref. No.	Part Number	Qty.	Description
1.	105-003	2	Flange Locknut (5/16-NC)—early style
	105-834	3	Flange Locknut (3/8-NC)
2.	105-047	1	Locknut (3/8-NC)
3.	105-073	1	Lock Washer (7/16")
4.	105-158	4	Cam Lockwasher (3/8")
5.	105-274	1	Bolt (M10-1.5 x 20mm)
6.	105-288	1	Bolt (3/8-NC x 5-1/2")
7.	105-894	2	Locknut (M10-1.5)
8.	195-822	1	Exhaust Manifold

Ref. No.	Part Number	Qty.	Description
9.	181-479	1	Mount Spacer
10.	195-834	1	Exhaust Gasket (asbestos)
	195-847	1	Exhaust Gasket (non-asbestos)
11.	195-985	1	Exhaust Tail Pipe
12.	195-962	1	Muffler Clamp
13.	196-083	1	Exhaust Muffler
14.	310-051	1	Muffler Brace
15.	501-325	2	Flange Bolt (5/16-NC x 5/8")—early style
	501-153	2	Flange Bolt (3/8-NC x 5/8")



Ref. No.	Part Number	Qty.	Description
1.	105-047	2	Locknut (3/8-NC)
2.	105-833	4	Flange Locknut (1/2-NC)
3.	105-229	4	Bolt (1/2-NC x 2")
4.	105-118	8	Washer (3/8")
5.	105-183	2	Bolt (3/8-NC x 2-1/2")
6.	105-052	2	Bolt (3/8-NC x 1-1/4")
7.	115-592	1	Extension Spring
8.	155-913	1	² Oil Filter
	159-019	1	³ Oil Filter
9.	165-631	1	Gasket
10.	115-244	1	⁶ Drain Plug
11.	105-032	2	Bolt (3/8-NC x 3/4")
12.	195-401	1	Accessory Drive (Incl. ref. no. 9)
13.	195-410	1	Bearing Plate (Incl. ref. no. 14)
14.	195-414	1	Internal Seal
15.	195-421	1	Carburetor
16.	195-425	1	Governor Control Linkage
17.	195-913	1	Choke Cable
18.	195-960	1	Muffler
19.	195-962	1	Muffler Clamp
20.	195-965	1	Muffler Adapter
21.	195-967	1	Muffler Clamp
22.	300-864	2	Muffler Support Bracket
23.	181-013	2	Sleeve
24.	195-963	1	Exhaust Tail Pipe
25.	115-103	1	⁶ Pipe Nipple (3/8-NPT M x 1-1/2")
26.	115-205	1	⁶ Pipe Elbow (3/8-NPT M)
27.	115-242	1	⁶ Pipe Cap (3/8-NPT FM)

Ref. No.	Part Number	Qty.	Description
28.	155-397	1	⁶ Hose (3/8-NPT M x 10")
29.	105-072	2	Washer (3/8")
30.	180-792	1	Double Knuckle U-Joint
31.	105-702	2	Setscrew (3/8-NC x 3/8")
32.	165-933	1	Key (1/4" SQ x 3/4")
33.	105-003	4	¹ Flange Locknut (5/16-NC)
34.	195-910	2	¹ U-Bolt
35.	196-020	1	¹ Personnel Protector (optional)
36.	301-285	2	¹ U-Bolt Plate
37.	321-827	1	¹ Heat Shield
38.	105-823	3	¹ Flange Lock Bolt (5/16-NC x 3/4")
39.	105-137	3	¹ Clip Nut (5/16-NC)
40.	105-053	2	Nut (3/8-NC)
41.	195-406	1	Engine

Parts Not Shown:

195-359	⁴ Breaker Point Set
195-439	⁵ Breaker Point Set
195-422	⁴ Distributor Cap
195-423	⁴ Distributor Rotor
195-438	⁵ Distributor Cap and Rotor

¹These parts are used with an A220. Refer to installation diagram 050-103 for procedures necessary to mount backhoe.

²Ends with Wisconsin engine S/N 5984979 (fits oil filter base RV-40-A1).

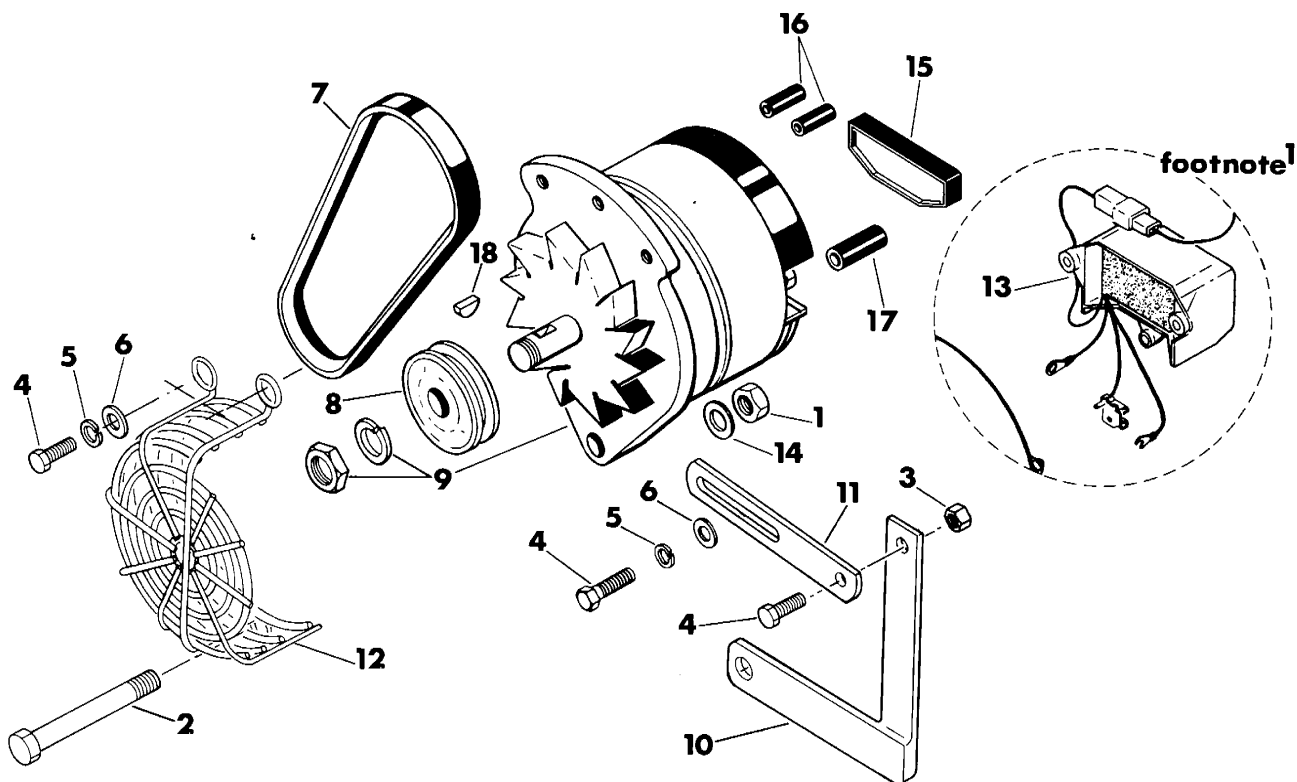
³Begins with Wisconsin engine S/N 5984980 (fits oil filter base RV-52-A1).

⁴Use of Prestolite distributor parts ends with Wisconsin engine S/N 6164220. See footnote 5.

⁵Use of Colt distributor parts begins with Wisconsin engine S/N 6164221.

⁶Early style drain plug (ref. no. 10) may be replaced by new style drain system (ref. no.'s 25 thru 28).

ALTERNATOR WISCONSIN ENGINE



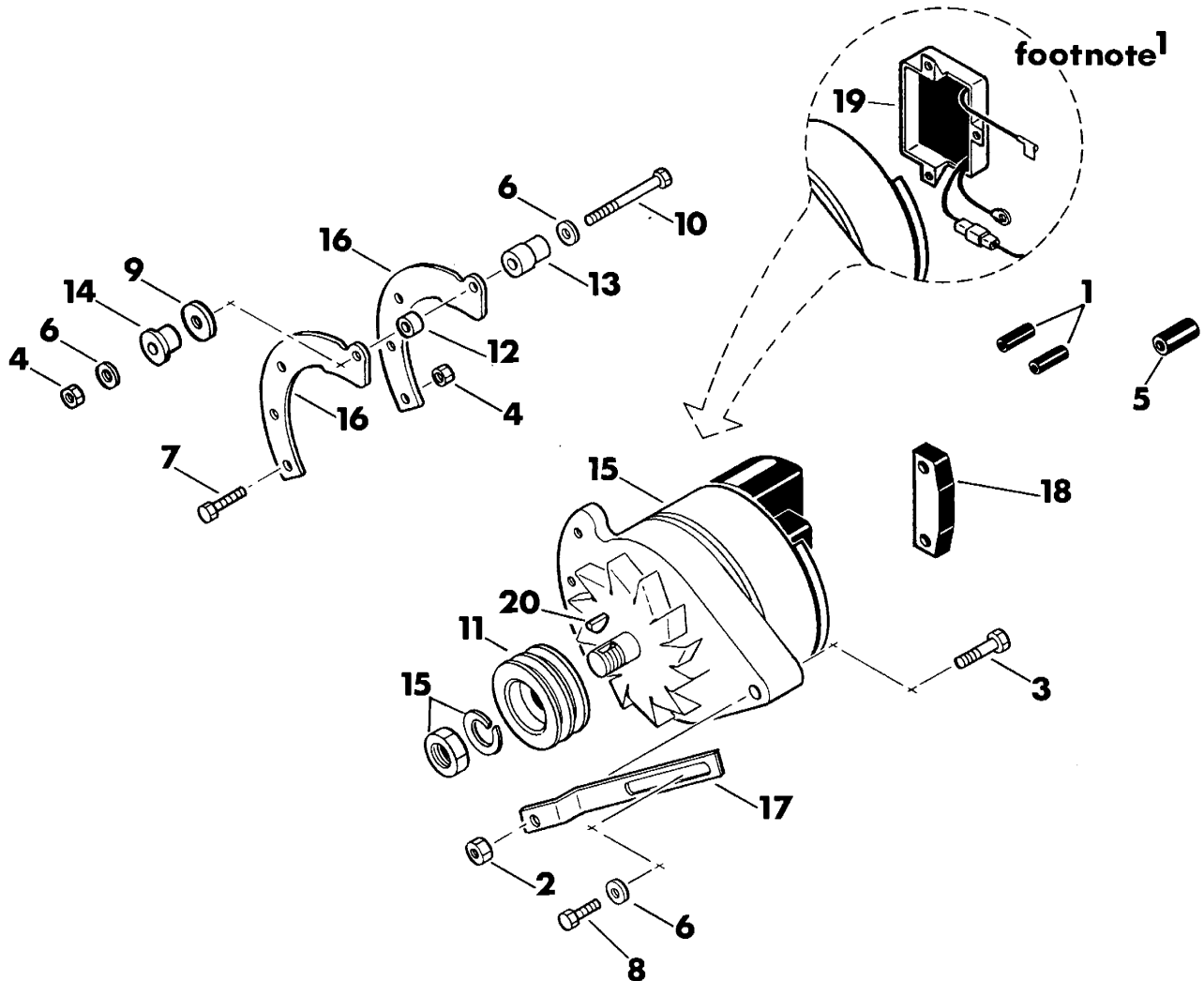
Ref. No.	Part Number	Qty.	Description
1.	105-065	1	Locknut (1/2-NC)—early style
	105-151	1	Locknut (7/16-NC)
2.	105-136	1	Bolt (1/2-NC x 3-1/2")—early style
	106-003	1	Bolt (7/16-NC x 3-1/2")
3.	105-089	1	Locknut (5/16-NC)
4.	105-090	3	Bolt (5/16-NC x 3/4")
5.	105-091	2	Lock Washer (5/16")
6.	105-117	2	Washer (5/16")
7.	170-056	1	Belt
8.	170-153	1	Sheave
9.	<u>215-156</u>	1	¹ Alternator (#8AR2069F)— Incl. ref. no.'s 13 and 18
	215-161	1	² Alternator (#8EA2001FA)— Incl. ref. no.'s 15 and 18
	215-499	1	¹ Wire (14 GA x 6")

Ref. No.	Part Number	Qty.	Description
10.	360-009	1	Tension Bracket
11.	360-067	1	Adjustable Strap
12.	362-138	1	Guard
13.	506-001	1	¹ Regulator (#8RF2012A)
14.	110-096	AR	Machinery Bushing
15.	506-032	1	² Regulator (#8RC2009A)
16.	110-397	2	Plastic Cap (3/16")
17.	110-398	1	Plastic Cap (1/4")
18.	506-025	1	Woodruff Key

¹Early style alternator/ #8AR2069F uses regulator/ #8RF2012A. If this alternator is replaced with alternator/ #8EA2001FA with regulator/ #8RC2009A it will require 6" wire (ref. no. 9). See footnote 2.

²Early design of alternator/ #8EA2001FA used regulator/ #8RF2012A, present design uses regulator/ #8RC2009A and requires 6" wire (ref. no. 9) to retrofit.

ALTERNATOR DEUTZ ENGINE



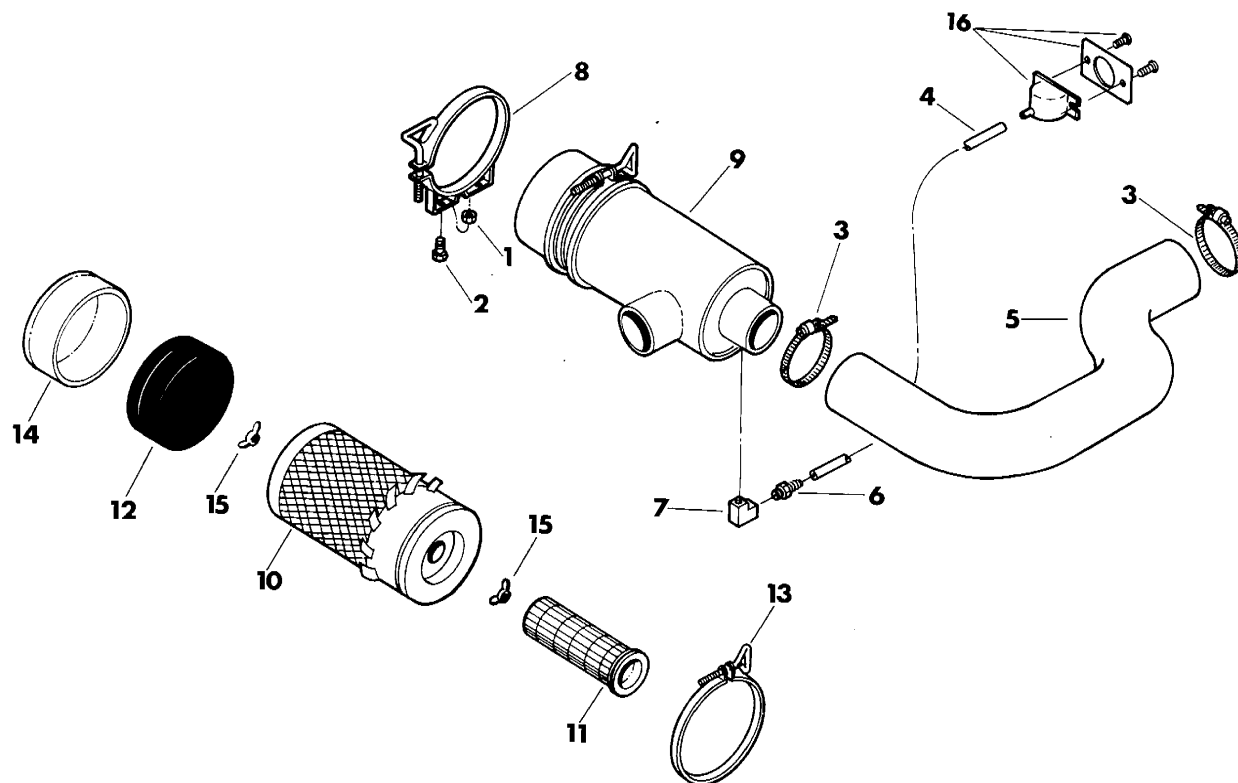
Ref. No.	Part Number	Qty.	Description
1.	110-397	2	Plastic Cap (3/16")
2.	105-065	1	Locknut (1/2-NC)
3.	105-082	1	Bolt (1/2-NC x 2-1/2")
4.	105-089	2	Locknut (5/16-NC)
5.	110-398	1	Plastic Cap (1/4")
6.	105-117	3	Washer (5/16")
7.	105-160	1	Bolt (5/16-NC x 1-1/4")
8.	105-272	1	Bolt (M8-1.25 x 30mm, GD 8)
9.	105-298	1	Washer
10.	105-838	1	Bolt (5/16-NC x 5")
11.	170-243	1	Alternator Sheave
12.	181-013	1	Sleeve
13.	181-476	1	Alternator Bushing
14.	181-506	1	Alternator Bracket Bushing

Ref. No.	Part Number	Qty.	Description
15.	215-156	1	¹ Alternator (#8AR2069F)— Incl. ref. no.'s 19 and 20
	215-161	1	² Alternator (#8EA2001FA)— Incl. ref. no.'s 18 and 20
	215-499	1	¹ Wire (14 GA x 6")
16.	360-284	2	Mount Bracket
17.	360-285	1	Belt Tightener Bracket
18.	506-032	1	² Regulator (#8RC2009A)
19.	506-001	1	¹ Regulator (#8RF2012A)
20.	506-025	1	Woodruff Key

¹Early style alternator/ #8AR2069F uses regulator/ #8RF2012A. If this alternator is replaced with alternator/ #8EA2001FA with regulator/ #8RC2009A it will require 6" wire (ref. no. 15). See footnote 2.

²Early design of alternator/ #8EA2001FA used regulator/ #8RF2012A, present design uses regulator/ #8RC2009A and requires 6" wire (ref. no. 15) to retrofit.

AIR FILTER SYSTEM DEUTZ ENGINE



Ref. No.	Part Number	Qty.	Description
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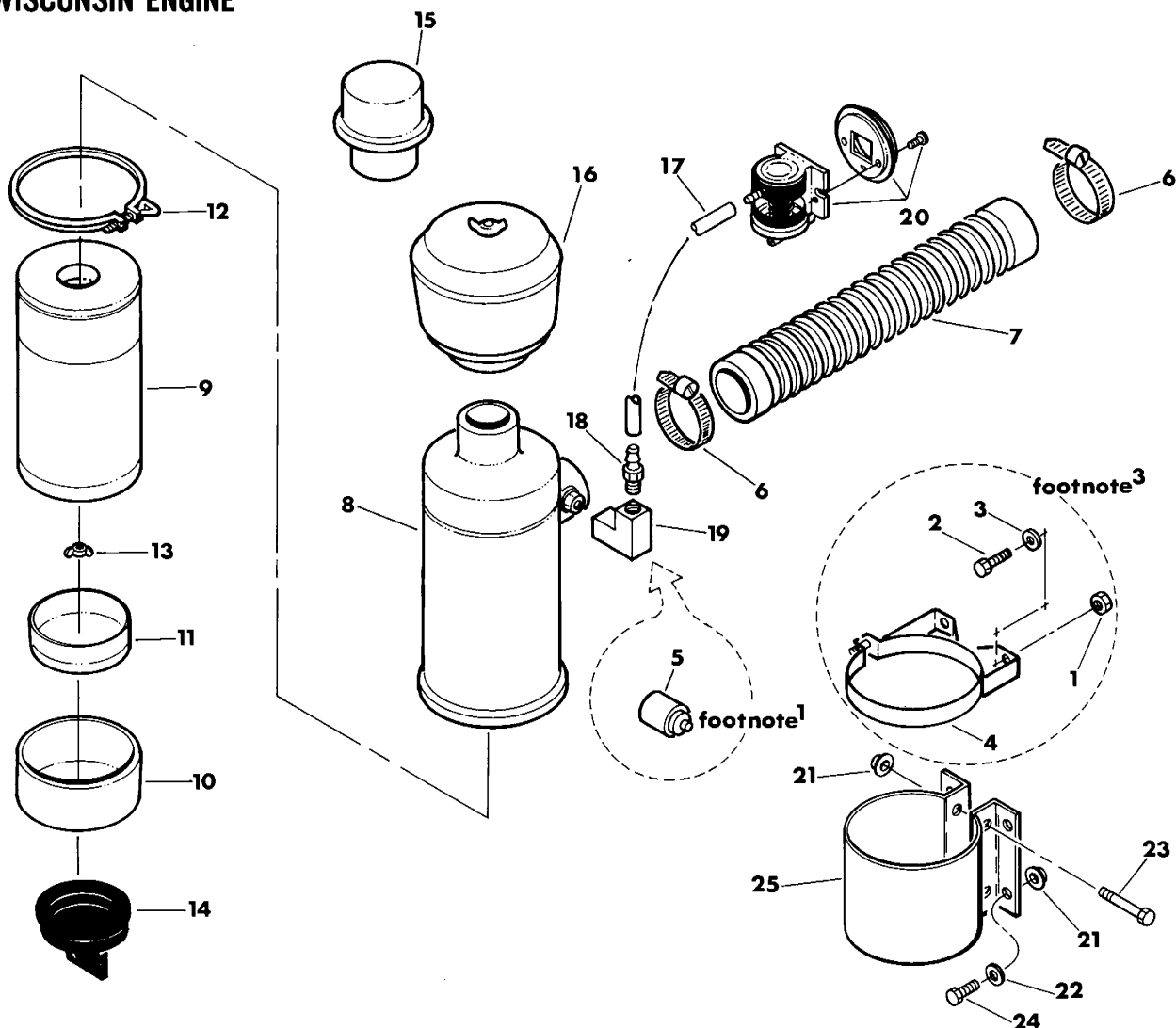
1.	105-089	4	Locknut (5/16-NC)
2.	105-090	4	Bolt (5/16-NC x 3/4")
3.	110-169	2	Clamp (3-3/4" ID)
4.	116-192	1	Hose (7/64" ID)—use 48"
5.	116-197	1	Air Cleaner Hose
6.	155-150	1	Slip-On Coupler (1/8-NPT M x 1/8" OD, STR)
7.	156-228	1	Elbow (1/8-NPT FM x 1/8-NPT FM x 90°)
8.	195-656	2	Mounting Band

Ref. No.	Part Number	Qty.	Description
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9.	195-816	1	Air Cleaner (Incl. ref. no.'s 10 thru 15)
10.	195-817		Primary Element
11.	195-818		Safety Element
12.	195-641		Baffle
13.	195-642		Clamp
14.	195-824		Bottom Cup
15.	195-815		Wing Nut
16.	215-149	1	Filter Indicator

AIR FILTER SYSTEM WISCONSIN ENGINE

<https://truckmanualshub.com/>



Ref. No.	Part Number	Qty.	Description
1.	105-078	3	³ Nut (1/4-NC)
2.	105-865	4	³ Bolt (1/4-NC x 3/4", GR 8)
3.	105-079	4	³ Lock Washer (1/4")
4.	195-675	2	³ Mounting Band
5.	195-637	1	¹ Restriction Indicator
6.	110-133	2	Hose Clamp
7.	116-097	1	Air Cleaner Hose
8.	195-426	1	Air Cleaner (Incl. ref. no.'s 9 thru 14)
9.	195-682		Air Cleaner Element
10.	195-434		Bottom Cup
11.	195-435		Baffle
12.	195-436		Clamp
13.	195-815		Wing Nut
14.	195-428	1	Discharge Valve
15.	195-429	1	Air Cleaner Cap
16.	195-623	1	Pre-Cleaner (Incl. bowl)—optional
	195-624		Pre-Cleaner Bowl

Ref. No.	Part Number	Qty.	Description
17.	116-192	1	² Hose (use 46")
18.	155-150	1	² Slip-On Coupler (1/8-NPT M x 1/8" OD, STR)
19.	156-228	1	² Elbow (1/8-NPT FM x 1/8-NPT FM x 90°)—early style
	115-172	1	² Pipe Collar (1/8-NPT FM)
20.	215-149	1	² Restriction Indicator
21.	105-085	5	⁴ Locknut (1/4-NC)
22.	105-095	4	⁴ Washer (1/4")
23.	105-106	2	⁴ Bolt (1/4-NC x 2")
24.	105-865	4	⁴ Bolt (1/4-NC x 3/4", GR 8)
25.	195-437	1	⁴ Mounting Band

¹Early style restriction indicator.

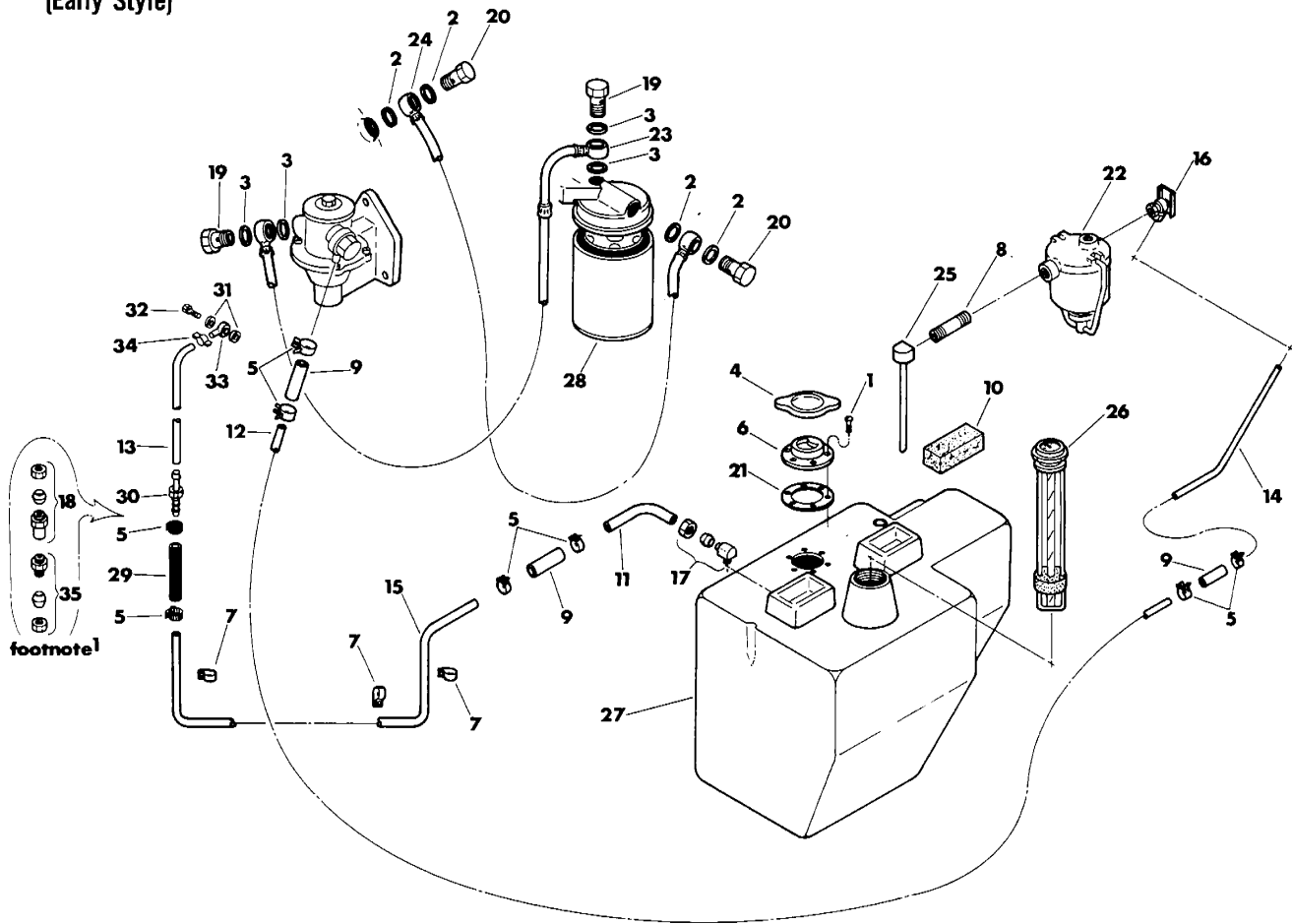
²Parts associated with present production restriction indicator.

³Parts associated with early style air cleaner bands.

⁴Parts associated with present production air cleaner bands.

FUEL LINE DEUTZ ENGINE

(Early Style)

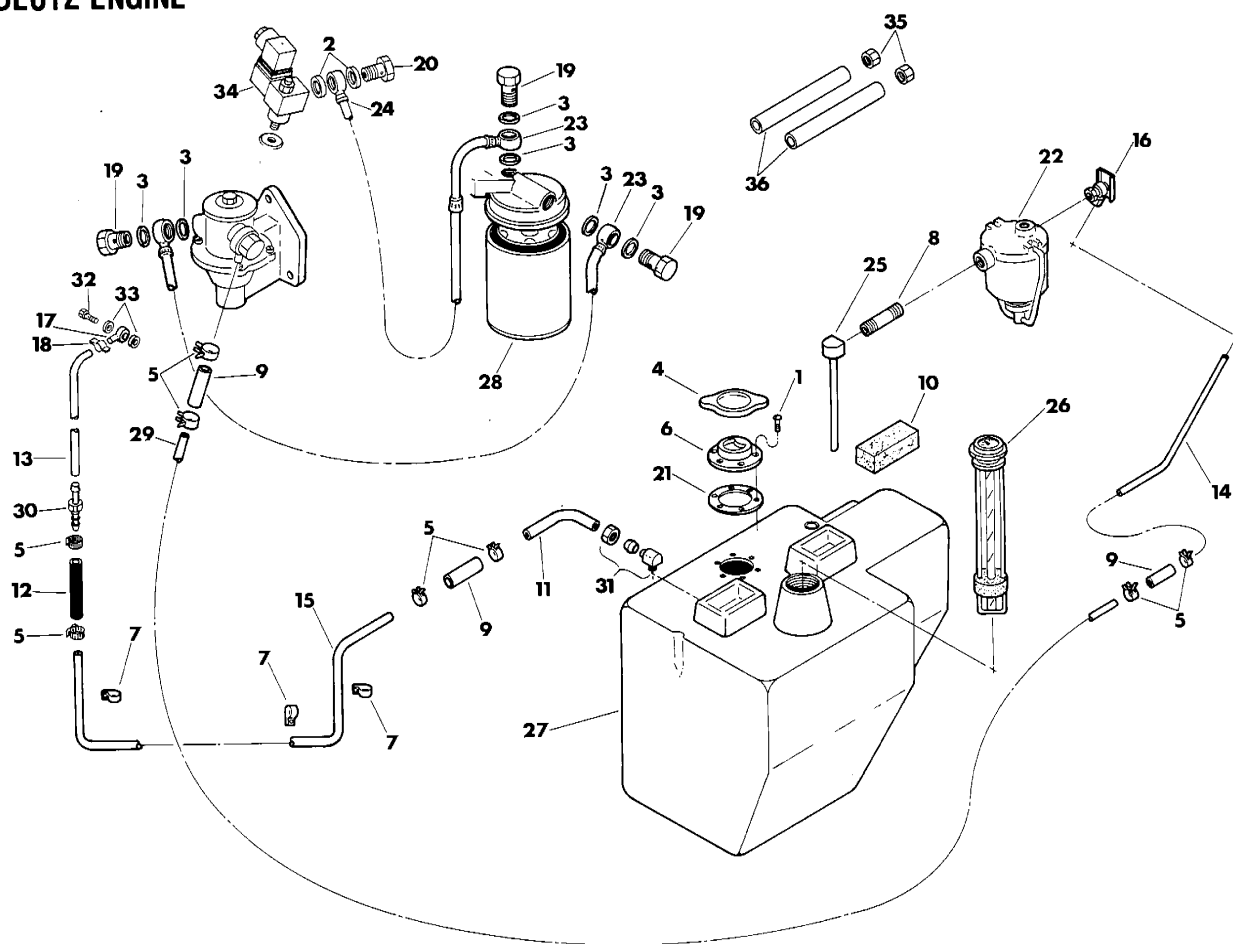


Ref. No.	Part Number	Qty.	Description
1.	105-214	6	Flange Screw (No. 10-24 x 1/2")
2.	105-890	2	Seal Washer (7/16")
3.	105-957	6	Seal Washer (9/16")
4.	110-010	1	Fuel Cap
5.	110-114	8	Hose Clamp
6.	110-132	1	Filler Neck
7.	110-212	3	Tube Clamp (5/16" ID)
8.	115-177	1	Pipe Nipple (1/8-NPT x 2" LG)
9.	116-108	3	Hose (.296" ID)—use 2"
10.	116-112	2	Tank Pad
11.	156-017	1	Copper Tubing (5/16" ID)—use 3" LG
12.	156-032	1	Fuel Line (5/16" OD x 37-1/4" LG)
13.	156-028	1	Plastic Tubing (1/4" OD)—use 26" LG
14.	156-029	1	Fuel Line (5/16" OD x 6-1/8" LG)
15.	156-030	1	Fuel Line (5/16" OD x 59-3/16" LG)
16.	156-214	1	Shutoff Valve
17.	156-219	1	Tube Connector (5/16" T x 1/8-NPT M x 90°)
18.	156-238	1	Tube Connector (1/4" T x 1/8-NPT M, STR)
19.	156-250	2	Fuel Bolt (M14-1.5 x 26mm)
20.	156-251	2	Fuel Bolt (M12-1.5 x 24mm)

Ref. No.	Part Number	Qty.	Description
21.	165-626	1	Gasket
22.	195-402	1	Fuel Strainer
23.	195-828	1	Fuel Hose (1/2" OD x 21-3/4" LG)
24.	195-830	1	Fuel Hose (5/8" OD x 29" LG)
25.	195-957	1	Pick-Up Tube
26.	215-126	1	Fuel Gauge
	215-127		Fuel Gauge Dial
27.	360-728	1	Fuel Tank
28.	195-807	1	Fuel Filter Element
29.	116-108	1	Hose (5/16" ID)—use 3"
30.	156-253	1	Hose Coupler (3/16" OD x 5/16" OD, STR)
31.	105-893	2	Seal Washer (M8)
32.	156-254	1	Fuel Bolt (M8-1.25 x 32mm)
33.	195-833	1	Slip-On Coupler (.175" OD x 8mm. STR)
34.	110-304	1	Hose Clamp
35.	156-220	1	Tube Connector (5/16" T x 1/8-NPT M, STR)

¹Hose and hose coupler (ref. no.'s 29 and 30) replace connectors (ref. no.'s 18 and 35).

FUEL LINE DEUTZ ENGINE



Ref. No.	Part Number	Qty.	Description
1.	105-214	6	Flange Screw (No. 10-24 x 1/2")
	106-069	6	Flange Screw (No. 10-16 x 1")
2.	105-890	2	Seal Washer (7/16")
3.	105-957	6	Seal Washer (9/16")
4.	110-010	1	Fuel Cap
5.	110-114	8	Hose Clamp
6.	110-132	1	Filler Neck
7.	110-212	3	Tube Clamp (5/16" ID)
8.	115-177	1	Pipe Nipple (1/8-NPT x 2" LG)
9.	116-108	3	Hose (.296" ID)—use 2"
10.	116-112	2	Tank Pad
11.	156-017	1	Copper Tubing (5/16" ID)—use 3" LG
12.	116-108	1	Hose (.296" OD)—use 3"
13.	156-028	1	Plastic Tubing (1/4" OD)—use 26" LG
14.	156-029	1	Fuel Line (5/16" OD x 6-1/8" LG)
15.	156-030	1	Fuel Line (5/16" OD x 59-3/16" LG)
16.	156-214	1	Shutoff Valve
17.	195-833	1	Hose Coupler
18.	110-304	1	Hose Clamp
19.	156-250	3	Fuel Bolt (M14-1.5 x 26mm)

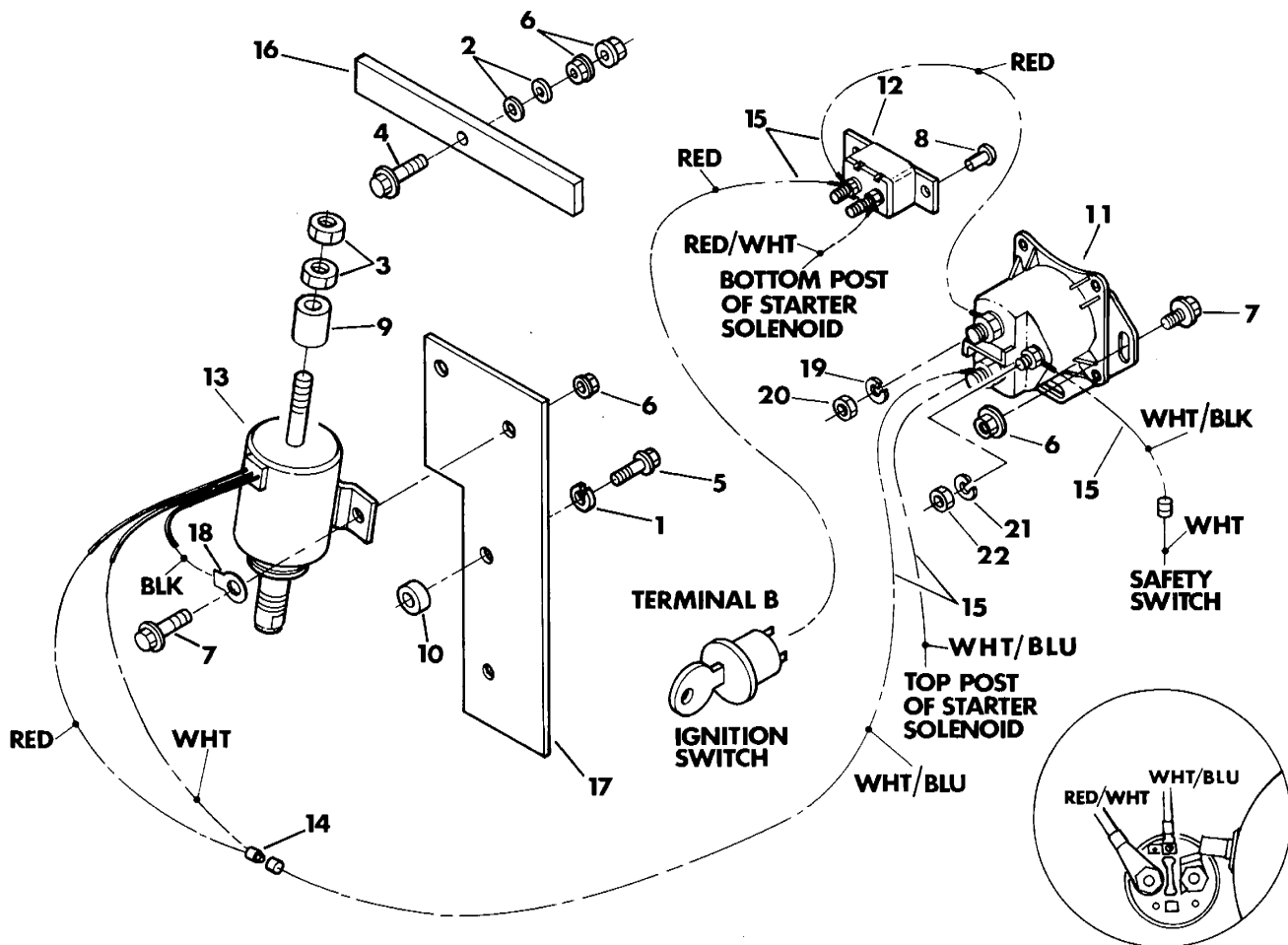
Ref. No.	Part Number	Qty.	Description
20.	156-251	1	Fuel Bolt (M12-1.5 x 24mm)
21.	165-626	1	Gasket
22.	195-402	1	Fuel Strainer
23.	195-830	1	Fuel Hose (5/8" OD x 29" LG)
24.	N.A.	1	Fuel Hose
25.	195-957	1	Pick-Up Tube
26.	215-126	1	Fuel Gauge
	215-127		Fuel Gauge Dial
27.	360-728	1	Fuel Tank
28.	195-807	1	Fuel Filter Element
29.	156-032	1	Fuel Line (5/16" T x 37-1/4")
30.	156-253	1	Hose Coupler (3/16" OD x 5/16" OD, STR)
31.	156-219	1	Tube Connector (5/16" T x 1/8-NPT M x 90°)
32.	156-254	1	Fuel Bolt (M8-1.25 x 32mm)
33.	105-893	2	Seal Washer (M8)
34.	215-066	1	Shutoff Solenoid
35.	105-047	2	Locknut (3/8-NC)
36.	181-479	2	Mount Spacer

¹Refer to installation diagram 052-103 when changing from a Deutz to a Murphy shutoff solenoid.

FUEL CONTROL SOLENOID

DEUTZ ENGINE

[Begins with S/N 3C0056]



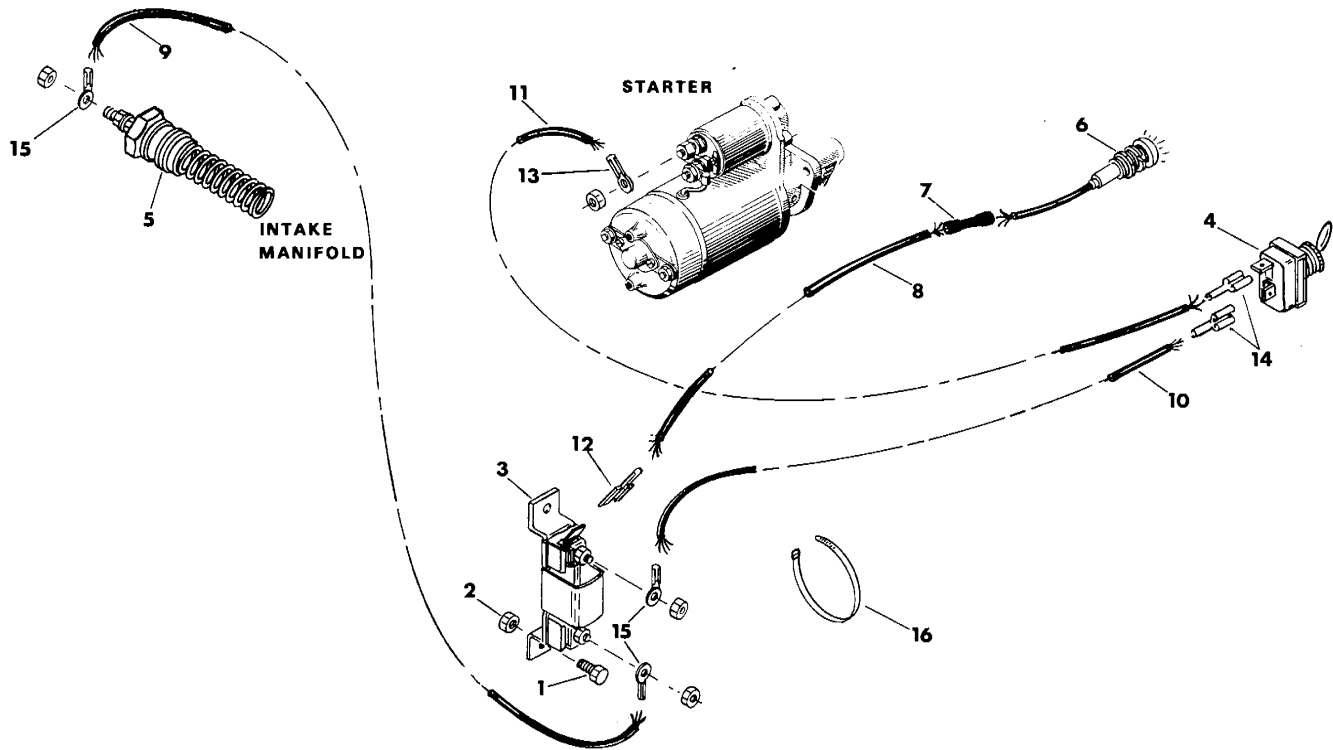
Ref. No.	Part Number	Qty.	Description
1.	105-072	2	Lock Washer (3/8")
2.	105-095	2	Washer (1/4")
3.	105-152	2	Nut (1/4-NF)
4.	105-197	1	Bolt (1/4-NC x 1")
5.	105-806	2	Bolt (M8-1.25 x 25mm)
6.	105-832	6	Flange Locknut (1/4-NC)
7.	105-836	4	Flange Lock Bolt (1/4-NC x 1/2")
8.	110-253	2	Pop Rivet
9.	115-739	1	Spacer (.88")
10.	181-013	2	Sleeve
11.	215-026	1	Solenoid Switch
12.	215-065	1	Circuit Breaker
13.	215-076	1	Extra Fuel Solenoid
14.	215-458	1	Male Bullet Terminal

Ref. No.	Part Number	Qty.	Description
15.	215-690	1	¹ Extra Fuel Harness
	215-713	1	² Engine Harness
16.	361-904	1	Lever
17.	363-023	1	Bracket
18.	215-525	1	¹ Ring Terminal (5/16")
	215-494	1	² Ring Terminal (No. 10)
19.	105-091	2	Lock Washer (5/16")
20.	105-092	2	Nut (5/16-NC)
21.	195-418	1	Lock Washer (No. 10)
22.	506-021	1	Nut (No. 10)

¹Ends with S/N 3D0143. These units had separate wiring harness for extra fuel solenoid.

²Begins with S/N 3D0144. These units have wiring for extra fuel solenoid built into engine harness.

COLD START KIT HEATER PLUG TYPE For Deutz Engine (Parts Only)

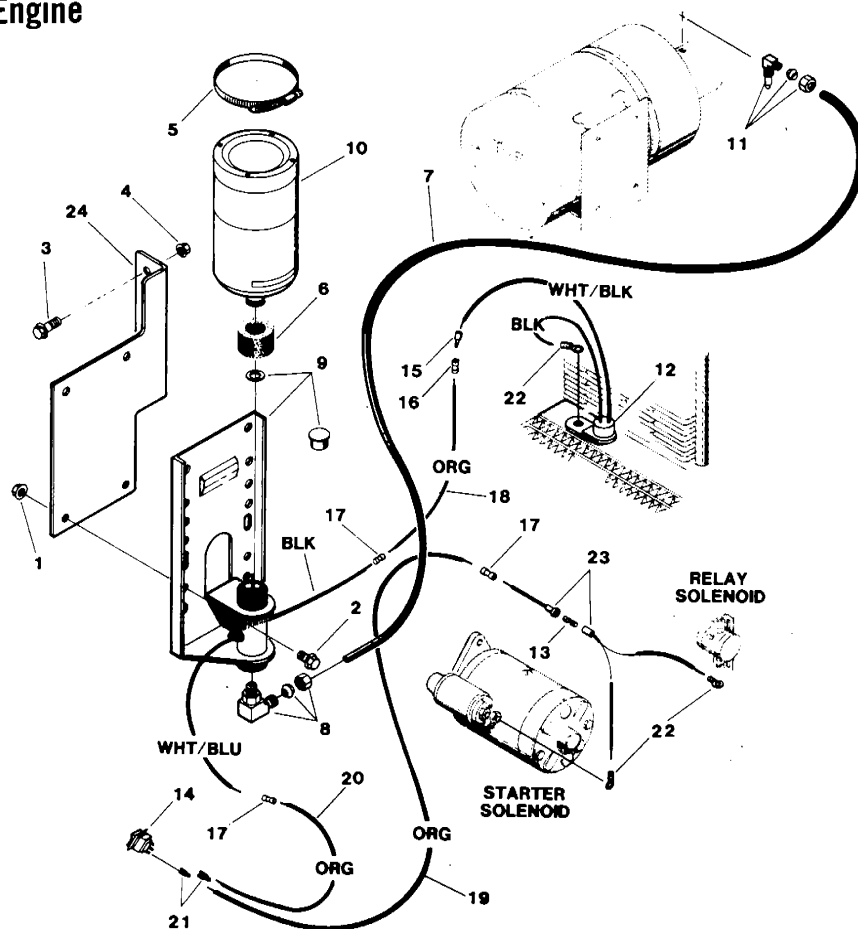


Ref. No.	Part Number	Qty.	Description
	190-378		1 Cold Start Conversion Kit
1.	105-865	2	Bolt (1/4-NC x 3/4", GD 8)
2.	105-085	2	Locknut (1/4-NC)
3.	215-059	1	Resistor Block
4.	215-060	1	Toggle Switch
5.	215-061	1	Heater Plug
6.	215-444	1	Green Pilot Light
	215-415		Light Kit
7.	215-478	1	Butt Connector (14 & 16 GA)
8.	215-490	1	Wire (16 GA)—use 45"

Ref. No.	Part Number	Qty.	Description
9.	215-505	1	Wire (10 GA)—use 45"
10.	215-505	1	Wire (10 GA)—use 50"
11.	215-505	1	Wire (10 GA)—use 40"
12.	215-527	1	Female Terminal (1/4" x 14/18 GA)
13.	215-531	1	Ring Terminal (3/8" x 10/12 GA)
14.	215-573	1	Female Terminal (1/4" x 8/10 GA)
15.	215-592	3	Ring Terminal (No. 10, 10/12 GA)
16.	110-030	4	Cable Tie

¹These parts are shown for replacement only. If installing a new cold start kit refer to COLD START KIT — ETHER CANISTER TYPE — For Deutz Engine.

COLD START KIT ETHER CANISTER TYPE For Deutz Engine



Ref. No.	Part Number	Qty.	Description
	190-400		¹ Cold Start Conversion Kit (Incl. decals and ref. no.'s 1 thru 9 and 11 thru 24)
1.	105-003	4	Flange Locknut (5/16-NC)
2.	105-822	4	Flange Lock Bolt (5/16-NC x 1/2")
3.	105-825	2	Flange Lock Bolt (3/8-NC x 3/4")
4.	105-834	2	Flange Locknut (3/8-NC)
5.	110-367	1	Clamp
6.	115-365	1	Grommet (for 2-1/8" OD hole)—use 1.5"
7.	156-018	1	Tubing (1/8" OD)—use 60"
8.	156-255	1	Blocker Connector (1/8" T x 1/8-NPT x 90°)
	156-204		Ferrule (1/8" T)
	156-205		Nut (1/8" T)
9.	195-841	1	Valve/Canister Bracket (shipped with CMW-772 Caution Flamable Gas card)
	110-252		Caplug
	195-844		Gasket
10.	195-842	1	¹ Ether Canister (shipped with CMW-772 Caution Flamable Gas card)
11.	195-843	1	Injector Nozzle
	156-204		Ferrule (1/8" T)
	156-205		Nut (1/8" T)
12.	215-073	1	² Sensor Switch

Ref. No.	Part Number	Qty.	Description
13.	215-074	1	Fuse (32 V, 15 AMP)
14.	215-077	1	Rocker Switch
15.	215-458	1	Male Bullet Terminal (14/16 GA)
16.	215-459	1	Female Bullet Terminal (14/16 GA)
17.	215-478	3	Butt Connector (14/16 GA)
18.	215-490	1	Wire (16 GA)—use 12"
19.	215-490	1	Wire (16 GA)—use 60"
20.	215-490	1	Wire (16 GA)—use 56"
21.	215-527	2	Female Terminal (1/4")
22.	215-590	2	Ring Terminal (3/8", 14/16 GA)
23.	215-600	1	Fuse Holder (12/16 GA)
24.	363-022	1	Mount Bracket (2300 & 3210)

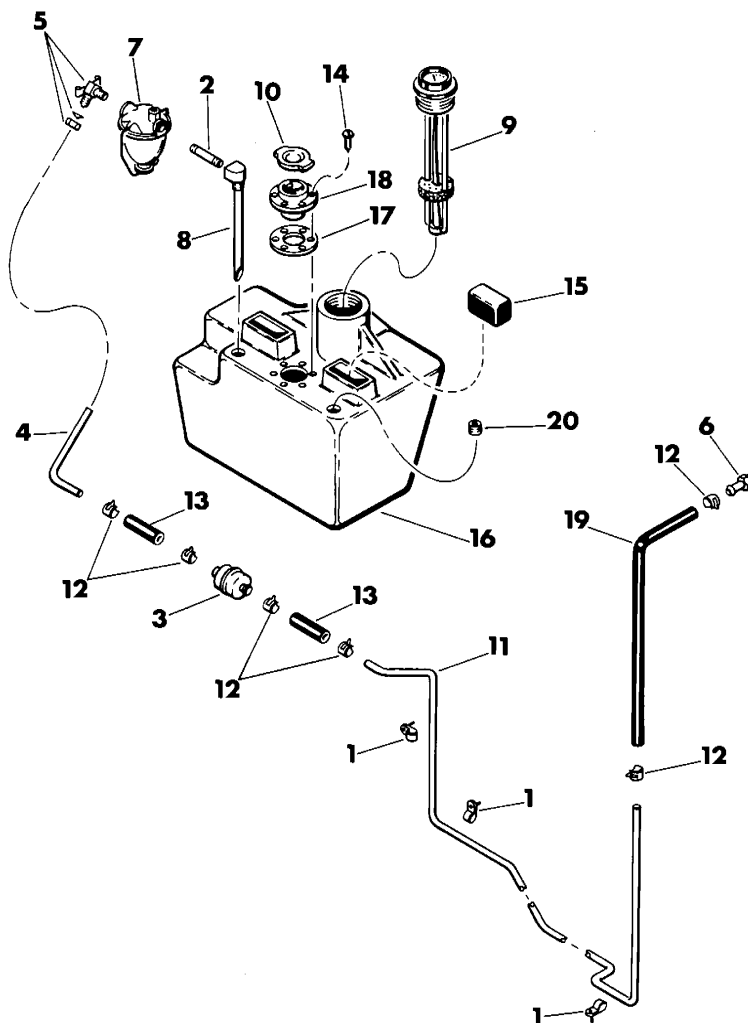
Not Shown:

275-378	1	Cold Start Decal
275-418	1	Cold Start Operations Decal (2300 & 3210)
275-419	1	Caution Flamable Gas Decal
275-420	1	Cold Start Operations Decal (350sx)

¹Refer to installation diagram 050-149 for installation instructions. Refer to Item 1 of Technical Bits dated 12-19-85 for cold weather starting instructions. Refer to Item 2 of Technical Bits dated 12-19-85 for trouble shooting the ether cold start kit. Ether canister (ref. no. 10) must be ordered separately from kit.

²The wire, from the sensor switch to the solenoid, must be connected to the starter terminal of the solenoid to insure proper operation.

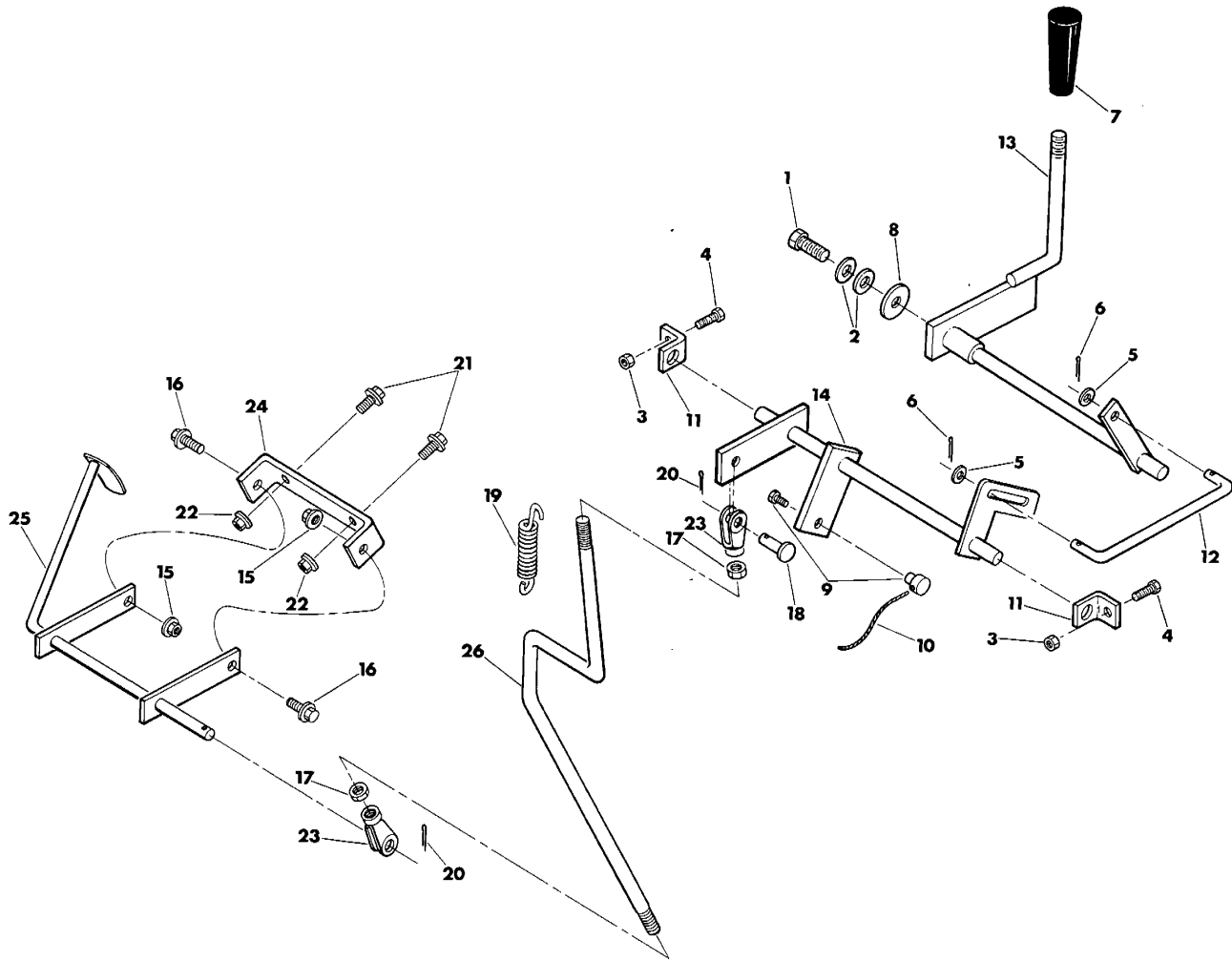
FUEL LINE WISCONSIN ENGINE



Ref. No.	Part Number	Qty.	Description
1.	110-212	3	Tube Clamp (5/16")
2.	115-177	1	Pipe Nipple (1/8" x 2")
3.	155-941	1	Fuel Filter
4.	156-029	1	Fuel Line (5/16")
5.	156-214	1	Shutoff Valve (Incl. nut and ferrule)
6.	155-142	1	Reusable Coupler (1/8-NPT x 5/16" OD, STR)
7.	195-402	1	Fuel Strainer
8.	195-957	1	Pickup Tube
9.	215-126	1	Fuel Gauge
	215-127		Fuel Gauge Dial
10.	110-010	1	Fuel Cap
11.	156-030	1	Fuel Line

Ref. No.	Part Number	Qty.	Description
12.	110-114	6	Hose Clamp
13.	116-108	2	Hose (.296" ID)—use 2"
14.	105-214	6	Flange Screw (No. 10-24 x 1/2")—early style
	106-069	6	Flange Screw (No. 10-16 x 1")
15.	116-112	4	Tank Pad
16.	360-728	1	Fuel Tank
17.	165-626	1	Gasket
18.	110-132	1	Filler Neck
19.	116-108	1	Hose (.296" ID)—use 12"
20.	115-157	1	Pipe Plug (1/8-NPT, ALN HD)

THROTTLE WISCONSIN ENGINE



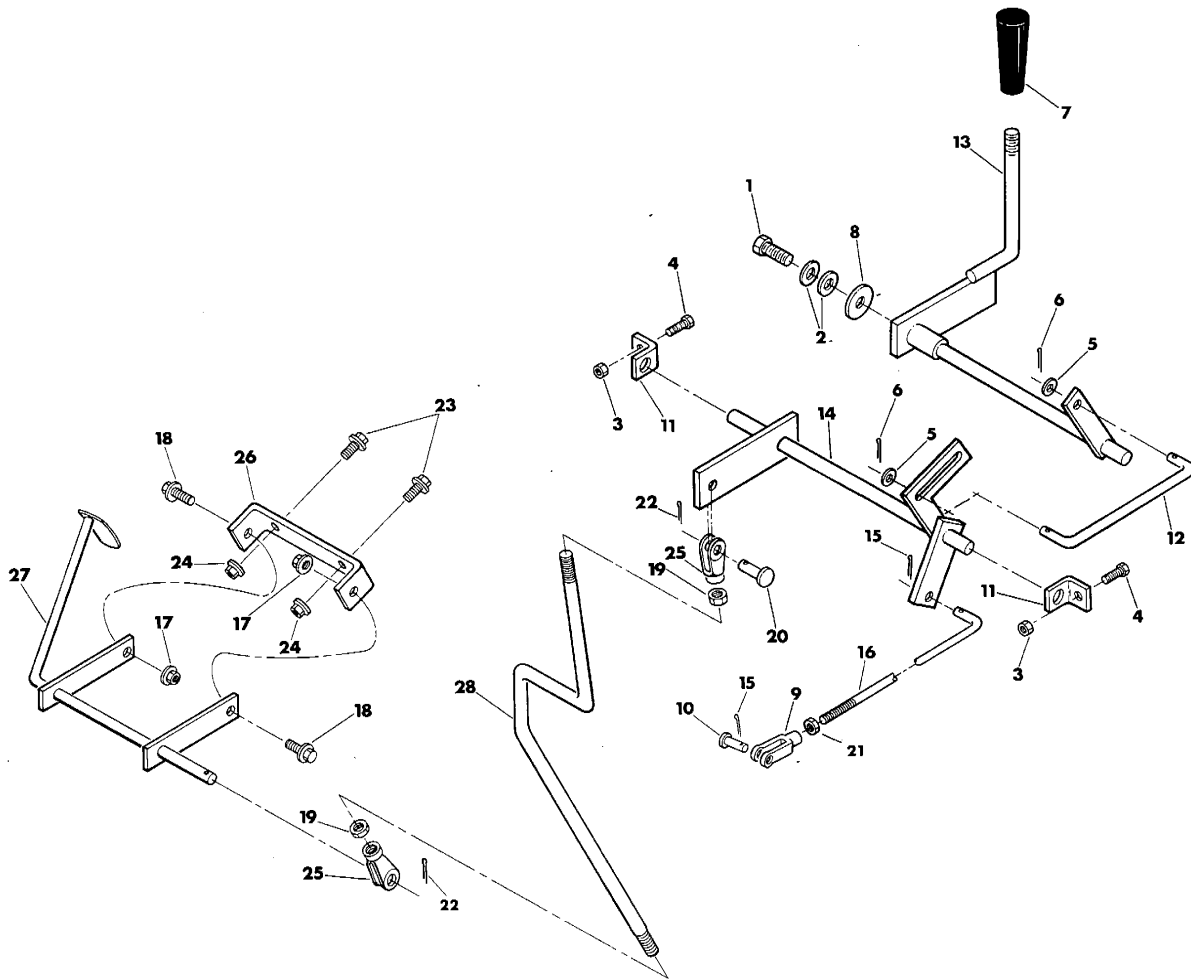
Ref. No.	Part Number	Qty.	Description
1.	105-045	1	Bolt (1/2-NC x 1-1/4", Nylok)
2.	105-058	2	Spring Washer (1/2")
3.	105-089	2	Locknut (5/16-NC)
4.	105-094	2	Bolt (5/16-NC x 1")
5.	105-117	2	Washer (5/16")
6.	105-526	2	Cotter Pin (3/32" x 1/2")
7.	110-051	1	Handle
8.	115-656	1	Urethane Washer
9.	195-953	1	Wire Swivel
10.	195-973	1	Throttle Wire End
11.	300-878	2	Mount Bracket
12.	361-491	1	Throttle Link Rod
13.	361-496	1	Throttle Lever
14.	361-498	1	¹ Throttle Bell Crank
15.	105-047	2	² Locknut (3/8-NC)

Ref. No.	Part Number	Qty.	Description
16.	105-031	2	² Bolt (3/8-NC x 1")
17.	105-093	2	² Nut (3/8-NF)
18.	110-053	1	² Clevis Pin (3/8" x 1-1/4")
19.	115-601	1	² Spring
20.	105-523	2	² Cotter Pin (1/8" x 3/4")
21.	105-825	2	² Flange Lock Bolt (3/8-NC x 3/4")
22.	105-834	2	² Flange Lock Nut (3/8-NC)
23.	110-027	2	² Clevis (3/8-NF)
24.	300-961	1	² Foot Throttle Lever Mount
25.	361-894	1	² Foot Throttle Lever
26.	361-898	1	² Foot Throttle Link

¹This style bell crank replaces all earlier styles and is required for when retrofitting foot throttle. See footnote 2.

²Begins with S/N 380800. Refer to Item 1 of Technical Bits dated 1-9-86 for installing foot throttle on machines prior to this serial number.

THROTTLE DEUTZ ENGINE



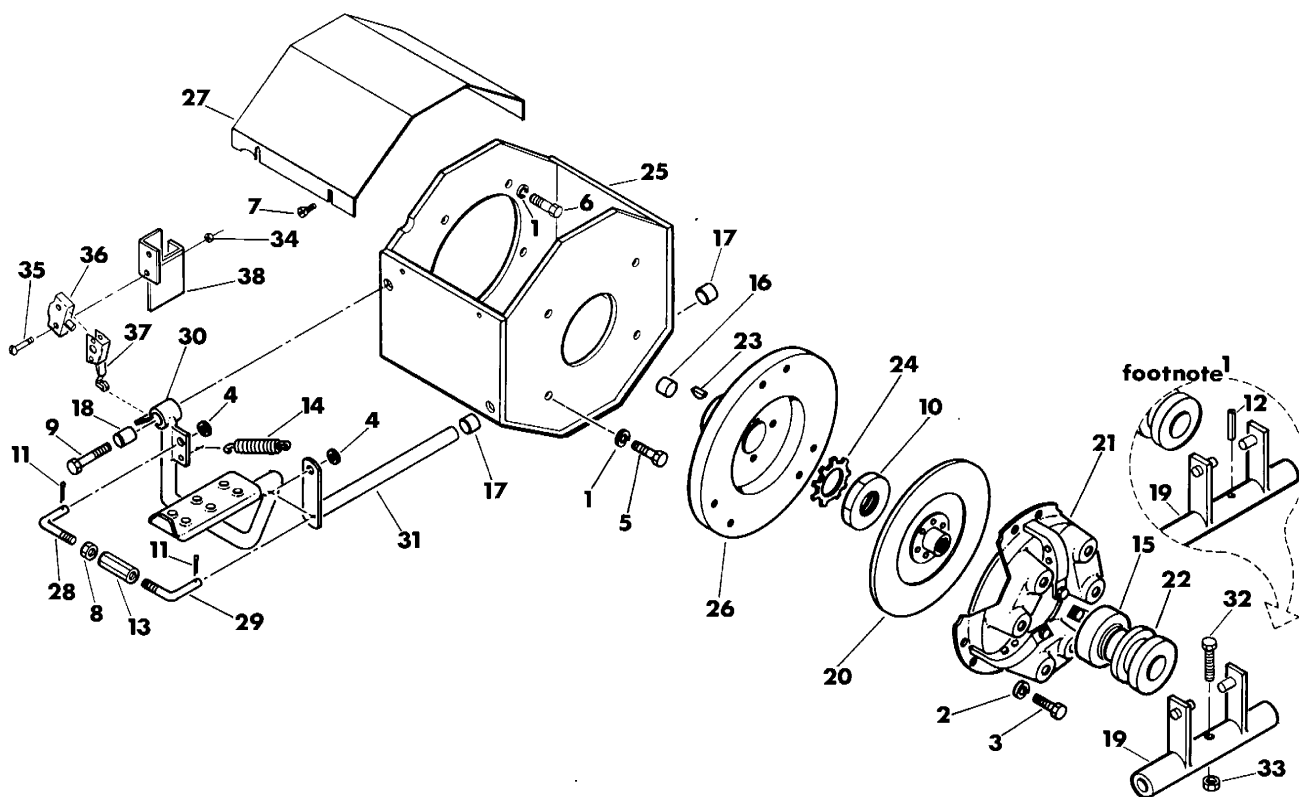
Ref. No.	Part Number	Qty.	Description
1.	105-045	1	Bolt (1/2-NC x 1-1/4", Nylok)
2.	105-058	2	Spring Washer (1/2")
3.	105-089	2	Locknut (5/16-NC)
4.	105-094	2	Bolt (5/16-NC x 1")
5.	105-117	2	Washer (5/16")
6.	105-526	2	Cotter Pin (3/32" x 1/2")
7.	110-051	1	Handle
8.	115-656	1	Urethane Washer
9.	110-067	1	Clevis (1/4-NF)
10.	110-082	1	Clevis Pin (1/4")
11.	300-878	2	Mount Bracket
12.	361-491	1	Throttle Link Rod
13.	361-496	1	Throttle Lever
14.	361-752	1	Throttle Bell Crank
15.	105-526	2	Cotter Pin (3/32" x 1/2")
16.	361-754	1	Throttle Rod

Ref. No.	Part Number	Qty.	Description
17.	105-047	2	Locknut (3/8-NC)
18.	105-031	2	Bolt (3/8-NC x 1")
19.	105-093	2	Nut (3/8-NF)
20.	110-053	1	Clevis Pin (3/8" x 1-1/4")
21.	105-152	1	Nut (1/4-NF)
22.	105-523	2	Cotter Pin (1/8" x 3/4")
23.	105-825	2	Flange Lock Bolt (3/8-NC x 3/4")
24.	105-834	2	Flange Lock Nut (3/8-NC)
25.	110-027	2	Clevis (3/8-NF)
26.	300-961	1	Foot Throttle Lever Mount
27.	361-894	1	Foot Throttle Lever
28.	361-898	1	Foot Throttle Link

¹This style bell crank replaces all earlier styles and is required for when retrofitting foot throttle. See footnote 2.

²Begins with S/N 3B0800. Refer to Item 1 of Technical Bits dated 1-9-86 for installing foot throttle on machines prior to this serial number.

CLUTCH WISCONSIN ENGINE

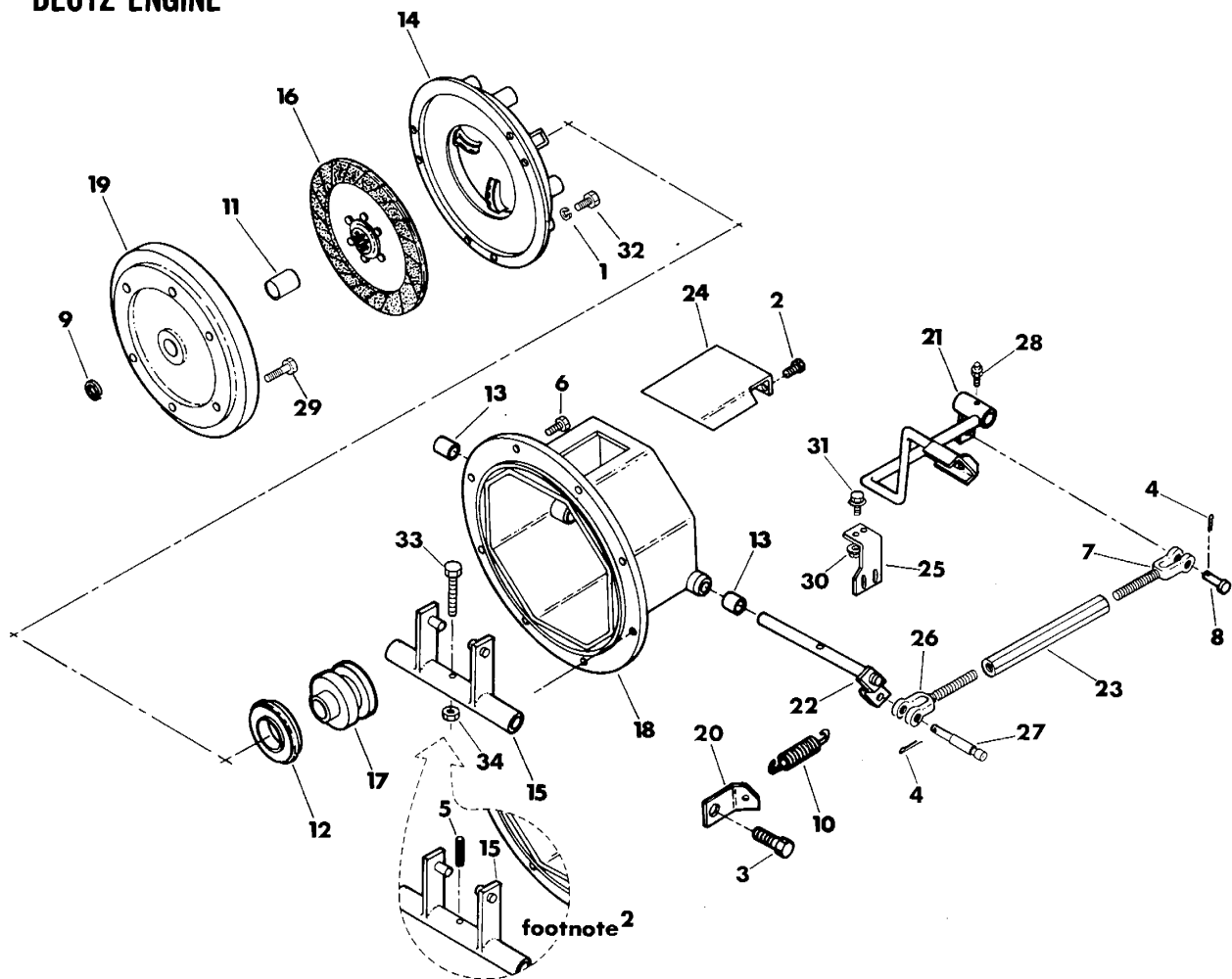


Ref. No.	Part Number	Qty.	Description
1.	105-073	8	Lock Washer (7/16")
2.	105-091	6	Lock Washer (5/16")
3.	105-094	6	Bolt (5/16-NC x 1")
4.	105-118	2	Washer (3/8")
5.	105-128	4	Bolt (7/16-NC x 1-1/4")
6.	105-132	4	Bolt (7/16-NC x 1-1/2")
7.	105-214	4	Flange Screw (No. 10-24 x 1/2")
8.	105-093	1	Nut (3/8-NF)
9.	105-452	1	Bolt (3/4-NC x 2")
10.	105-406	1	Jam Nut (1-1/2-NF)
11.	105-509	2	Cotter Pin (1/8" x 1")
12.	105-510	1	'Roll Pin (1/4" x 1-1/2")—early style
	105-529	1	'Roll Pin (5/16" x 1-1/2")—early style
13.	110-138	1	Adjusting Nut
14.	115-592	1	Extension Spring
15.	125-020	1	Bearing
16.	125-403	1	Bronze Bushing (3/4" LG)
17.	125-424	2	Bronze Bushing (1" LG)
18.	125-425	1	Bronze Bushing (1-1/4" LG)
19.	160-840	1	'Clutch Yoke
20.	160-868	1	Clutch Plate
21.	160-812	1	Pressure Plate

Ref. No.	Part Number	Qty.	Description
22.	160-869	1	Throw-Out Bearing Carrier
23.	165-943	1	Woodruff Key (1/4" x 1-1/8")
24.	195-321	1	Lock Washer
25.	195-431	1	Clutch Housing
26.	195-430	1	Clutch Drive Hub
27.	362-149	1	Clutch Housing Cover
28.	361-888	1	Link Rod (RH THD)
29.	361-206	1	Link Rod (LH THD)
30.	361-494	1	Clutch Pedal
31.	361-492	1	Clutch Release Shaft
	361-424	1	'Clutch Release Shaft (replacements)
32.	105-033	1	'Bolt (5/16-NC x 2")
33.	105-089	1	'Locknut (5/16-NC)
34.	105-215	2	Nut (No. 6-32)
35.	105-216	2	Bolt (No. 6-32 x 1-1/4")
36.	215-046	1	Safety Switch
37.	215-047	1	Safety Switch Bracket (Incl. ref. no.'s 34 and 35)
38.	360-248	1	Switch Bracket

'Replacement clutch yoke (ref. no. 19) or release shaft (ref. no. 31) may require 5/16-NC hardware and drilling out of hole on mating part.

CLUTCH DEUTZ ENGINE

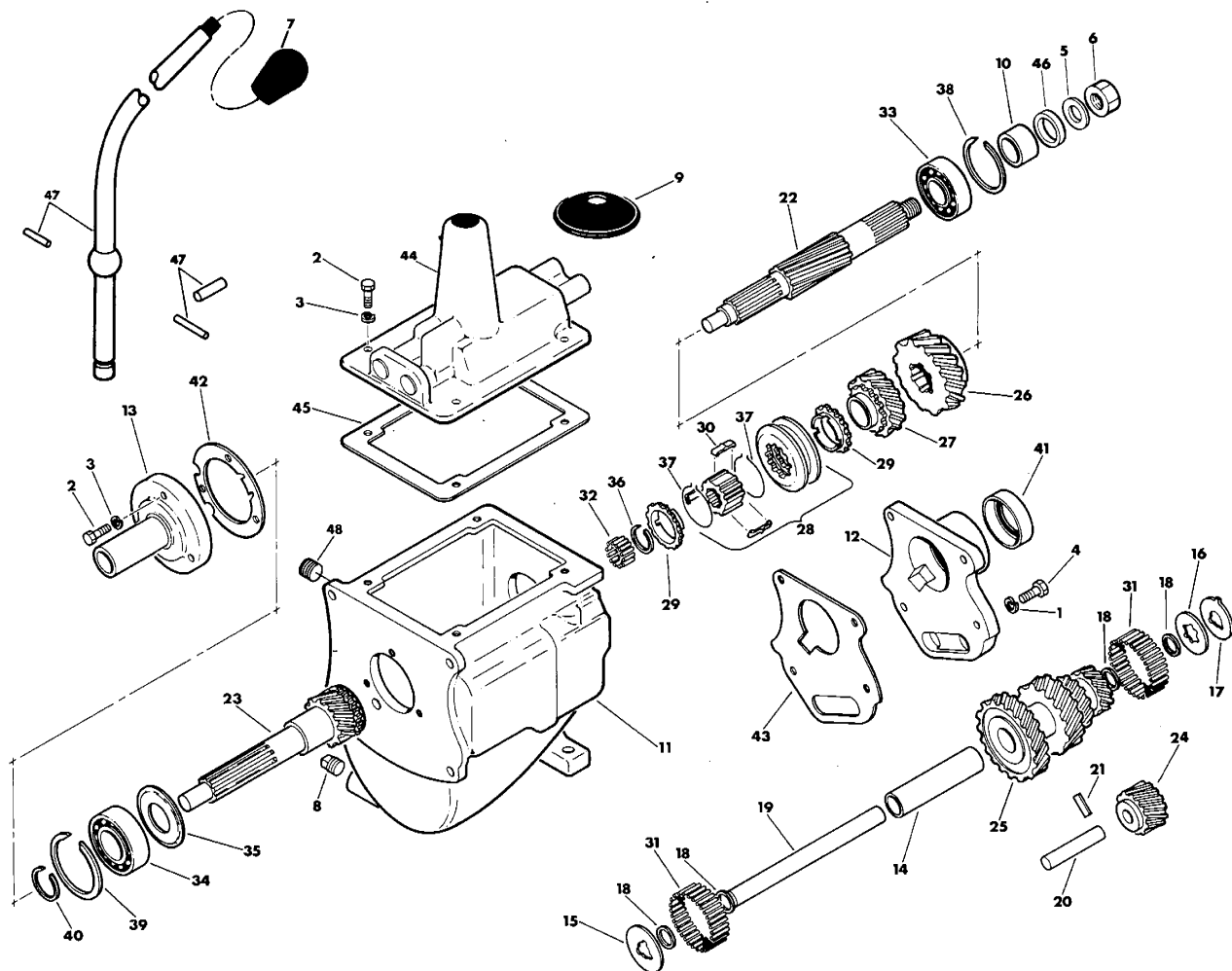


Ref. No.	Part Number	Qty.	Description
1.	105-091	6	Lock Washer (5/16")
2.	105-214	2	Screw [No. 10-24 x 1/2"]
3.	105-245	1	Bolt (M10-1.5 x 25mm)
4.	105-509	2	Cotter Pin (1/8" x 1")
5.	105-510	1	² Roll Pin (1/4" x 1-1/2")—early style
	105-529	1	² Roll Pin (5/16" x 1-1/2")—early style
6.	105-842	8	Bolt (M8-1.25 x 20mm, ALN HD, GD 8)
7.	110-193	1	¹ Clevis (3/8-NF, LH THDS)
8.	110-053	1	Clevis Pin
9.	115-521	1	Internal Snap Ring
10.	115-592	1	Extension Spring
11.	125-403	1	Bronze Bushing
12.	125-020	1	Clutch Release Bearing
13.	125-424	2	Bronze Bushing (7/8" OD)
14.	160-812	1	Pressure Plate
15.	160-840	1	² Clutch Yoke
16.	160-868	1	Clutch Plate
17.	160-869	1	Throwout Bearing Carrier
18.	195-826	1	Clutch Housing
19.	195-827	1	Clutch Adapter

Ref. No.	Part Number	Qty.	Description
20.	363-016	1	Spring Clip
21.	361-741	1	Clutch Pedal
22.	361-746	1	² Clutch Release Shaft
23.	361-751	1	¹ Clutch Rod
24.	362-368	1	Cover Plate
25.	363-017	1	Safety Switch Bracket
26.	110-194	1	¹ Clevis (3/8-NF, RH THDS)
27.	110-301	1	¹ Clevis Pin
28.	115-003	1	Zerk (1/4-NF, STR)
29.	105-892	6	Bolt (M8-1.25 x 30mm, GD 8)
30.	105-832	2	Flange Locknut (1/4-NC)
31.	105-836	2	Flange Lock Bolt (1/4-NC x 1/2")
32.	105-090	6	Bolt (5/16-NC x 3/4")
33.	105-033	1	² Bolt (5/16-NC x 2")
34.	105-089	1	² Locknut (5/16-NC)

¹Adjusting bar, clevises, and clevis pin replace early style clutch rod and clevis.

²Replacement clutch yoke (ref. no. 15) or release shaft (ref. no. 22) may require 5/16-NC hardware and drilling out of hole on mating part.



Ref. No.	Part Number	Qty.	Description
	165-042		Transmission (Incl. ref. no.'s 1 thru 6, 8 and 10 thru 47)
1.	105-073	4	Lock Washer (7/16")
2.	105-090	7	Bolt (5/16-NC x 3/4")
3.	105-091	7	Lock Washer (5/16")
4.	105-126	4	Bolt (7/16-NC x 7/8")
5.	105-350	1	Washer
6.	105-387	1	Locknut (3/4-NF)—use with Loctite
7.	110-022	1	Plastic Knob (1/2-NC)—early models
	110-241	1	Plastic Knob (5/8-NC)
8.	115-112	2	Pipe Plug (1/2", SQ M HD)
9.	165-011	1	Dust Cover

Ref. No.	Part Number	Qty.	Description
10.	180-253	1	Transmission Yoke Spacer (1-1/2" OD)
11.	501-001	1	Transmission Case
12.	501-002	1	Output Bearing Retainer
13.	501-003	1	Input Bearing Retainer
14.	501-004	1	Transmission Countershaft Spacer (13/16" OD)
15.	501-005	1	Transmission Washer (single tang)
16.	501-006	1	Transmission Washer (double tang)
17.	501-007	1	Transmission Washer (single tang, outside)
18.	501-008	4	Countershaft Roller Spacer (7/8" OD)
19.	501-009	1	Transmission Countershaft

(Continued on following page.)

TRANSMISSION (Cont'd.)

Ref. No.	Part Number	Qty.	Description
20.	501-010	1	Reverse Idler Gear Shaft
21.	501-011	1	Shaft Retainer
22.	501-012	1	Output Shaft (10 spline, 6 T)
23.	501-013	1	Input Shaft (10 spline, 24 T)
24.	501-014	1	Reverse Idler Gear (14 T)—Incl. bushing
25.	501-015	1	Cluster Gear (Incl. washers)
26.	501-016	1	Low and Reverse Gear (27 and 6 T)
27.	501-017	1	Intermediate Gear (24 T)—Incl. bushing
28.	501-018	1	Synchronizer (Incl. ref. no.'s 30 and 37)
29.	501-019	2	Synchronizer Blocking Ring
30.	501-020	3	Transmission Insert
31.	501-021	2	Cluster Gear Roller (3/4" LG, 20 per set)
32.	501-022	1	Output Shaft Roller (17/32" LG, 13 per set)
33.	501-023	1	Transmission Bearing (2.44" OD)
34.	125-034	1	Input Shaft Bearing (2.8346" OD)
35.	501-025	1	Transmission Oil Baffle
36.	501-026	1	Transmission Snap Ring

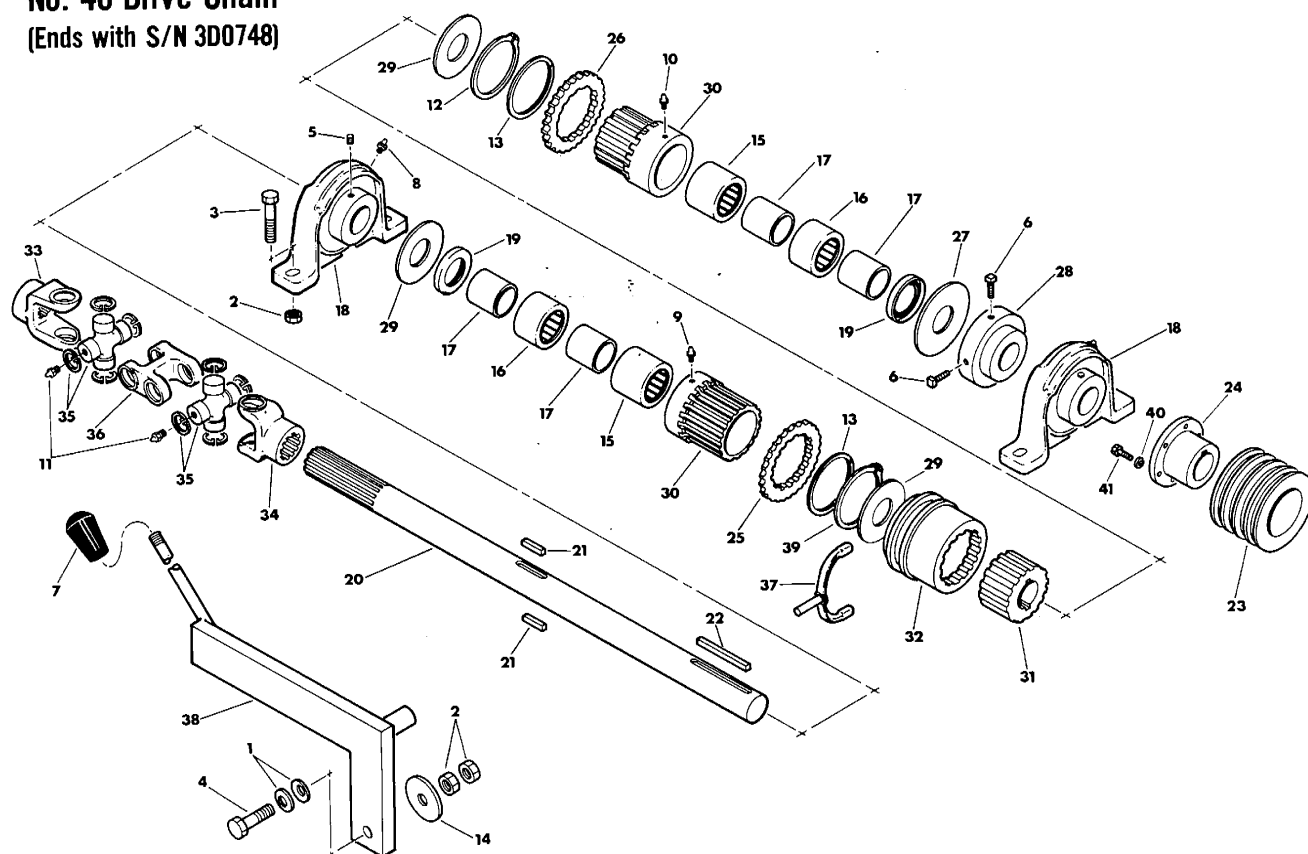
Ref. No.	Part Number	Qty.	Description
37.	501-027	2	Lock Ring (1-1/2" ID)
38.	501-028	1	External Snap Ring (2.332" ID)
39.	501-030	1	Internal Snap Ring (2.684" ID)
40.	501-031	1	External Snap Ring (1.265" ID)
41.	501-033	1	Internal Seal (2.445" OD)
42.	501-034	1	Front Bearing Retainer Gasket
43.	501-035	1	Output Bearing Retainer Gasket
44.	501-036	1	Transmission Cap (Incl. ref. no. 47)
	501-097	4	Shift Rail Cap
45.	501-037	1	Transmission Cap Gasket
46.	181-798	1	² Transmission Yoke Spacer
47.	501-334	1	Shift Lever (Incl. pin)

¹Refer to assembly instruction 052-174.

²Yoke spacer (ref. no. 46) is required when using a replacement transmission yoke with 1-7/16" LG splines.

JACKSHAFT**No. 40 Drive Chain**

(Ends with S/N 3D0748)



Ref. No.	Part Number	Qty.	Description	Ref. No.	Part Number	Qty.	Description
	165-478		³ Jackshaft Parts Assembly (Incl. ref. no.'s 6, 9, 10, 12, 13, 15 thru 21 and 25 thru 32)	11.	115-003	2	Zerk (1/4-NPT, STR)
	165-487		⁴ Jackshaft Parts Assembly (Incl. ref. no.'s 6, 9, 10, 12, 13, 15 thru 21, 25 thru 32 and 39)	12.	115-467	1	External Snap Ring (2.377" ID)
1.	105-058	2	Spring Washer (1/2")	13.	115-486	2	External Retaining Ring (2.394" ID)
2.	105-065	6	Locknut (1/2-NC)	14.	115-656	1	Friction Washer (1/2")
3.	105-066	4	Bolt (1/2-NC x 1-3/4")	15.	125-211	2	Bearing (1.5" ID x 1" LG)
4.	105-208	1	Bolt (1/2-NC x 1-1/4")	16.	125-212	2	Bearing (1.5" ID x 1-1/4" LG)
5.	105-702	2	Set screw (3/8-NC x 3/8")	17.	125-230	4	Race (1.499" OD)
6.	105-714	2	Set screw (3/8-NC x 1")	18.	125-503	2	Pillow Block Bearing (1.25" ID) —
7.	110-022	1	Knob (1/2-NC)		125-708		Incl. ref. no. 8
8.	115-003	2	Zerk (1/4-NPT, STR)				Lock Collar (Incl. ref. no. 5)
9.	115-003	1	⁵ Zerk (1/4-NPT, STR)	19.	155-813	2	Internal Seal (1.5" ID)
	115-017	1	⁶ Zerk (1/8-NPT, x 65°)	20.	165-450	1	Jackshaft (1.25" OD x 20.25" LG, 10 S)
10.	115-003	1	⁵ Zerk (1/4-NPT, STR)	21.	165-909	2	Key (5/16" SQ x 1-1/8")
	115-001	1	⁶ Zerk (1/8-NPT, STR)	22.	165-921	1	Key (5/16" SQ x 2-1/2")
				23.	170-150	1	¹ Sheave (5 groove, 4.75" OD)
					170-236	1	² Sheave (4 groove, 4.75" OD)
					170-235	1	¹⁰ Sheave (3 groove, 4.4" OD)

(Continued on following page.)

JACKSHAFT (Cont'd.)**No. 40 Drive Chain****[Ends with S/N 3D0748]**

Ref. No.	Part Number	Qty.	Description
24.	170-230	1	¹ Sheave Bushing (1.25" ID)— Incl. bolt group
	170-162		¹ Bolt Group (Incl. bolts & washers)
	170-157	1	² Sheave Bushing (1.25" ID)
	170-159	1	¹⁰ Sheave Bushing (1.25" ID)— Incl. bolt group
	170-163		¹⁰ Bolt Group
25.	174-903	1	³ Double Sprocket (30 S, 2.49" ID, 3.55" OD)
	175-043	1	⁴ Sprocket (30 S, 2.45" ID, 3.62" OD)
26.	175-043	1	Sprocket (30 S, 2.45" ID, 3.62" OD)
27.	180-053	1	Brass Bushing (1.25" ID x 2.75" OD)
28.	180-054	1	Lock Collar (1.253" ID x 2.75" OD)
29.	180-118	3	Brass Bushing (1.25" ID x 2.375" OD)
30.	180-604	2	⁶ Drive Sprocket Hub (30 S, 2 groove)
31.	180-606	1	Splined Clutch Hub (30 S)
32.	180-613	1	Shifting Collar (30 S)
33.	180-704	1	⁷ Transmission Yoke (10 S)
34.	180-705	1	Jackshaft Yoke (10 S)
35.	180-723	2	Cross and Bearing (Incl. ref. no. 11)
	180-766	2	⁸ Cross and Bearing (Incl. ref. no. 11)—replacements
	182-083		Bearing Cap (greaseable)
	180-760		Bearing Cap (nongreaseable)

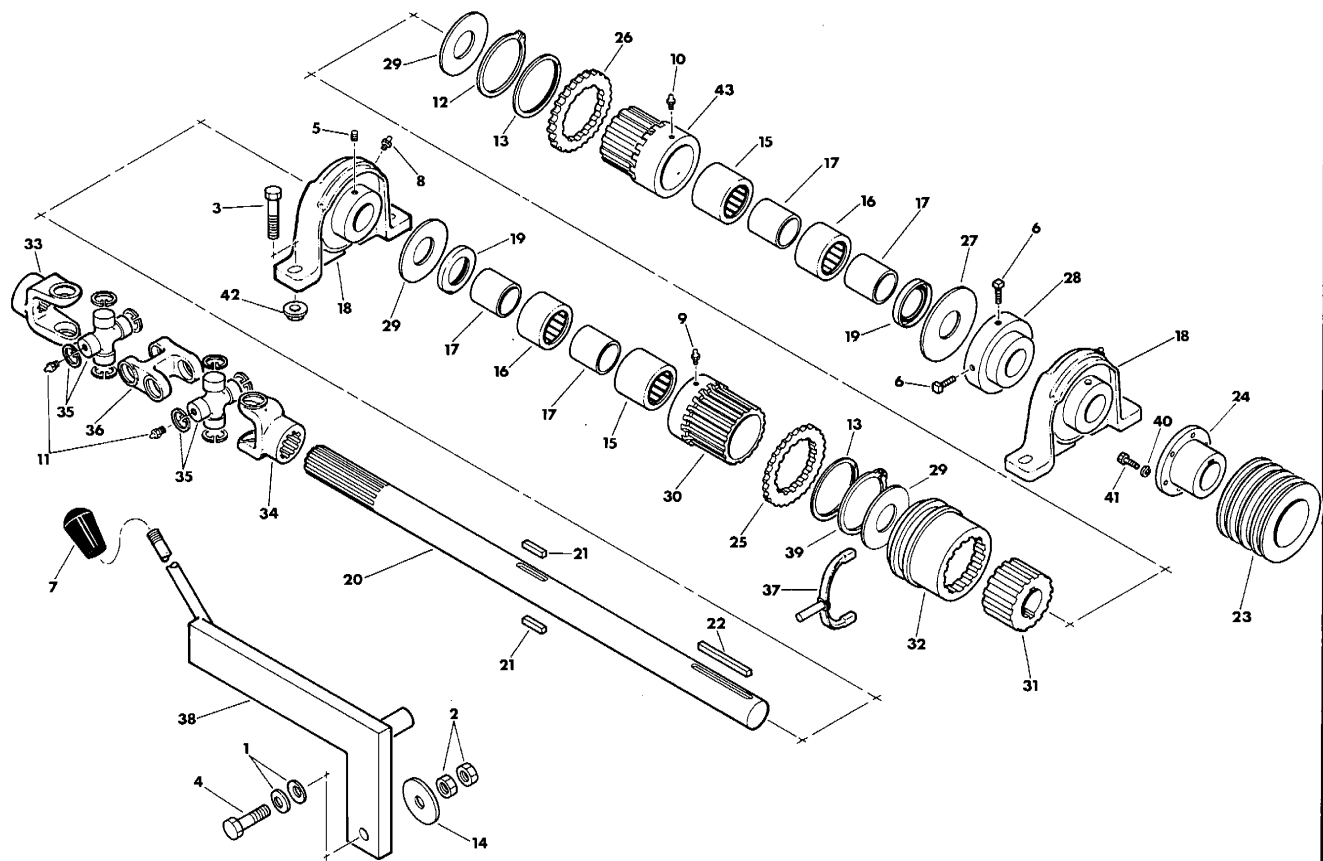
Ref. No.	Part Number	Qty.	Description
36.	180-725	1	Double Center Yoke
37.	360-940	1	Clutch Fork
38.	361-413	1	Mobile Dig Shifter
39.	115-467	1	⁴ External Snap Ring (2.377" ID)
40.	105-079	3	⁹ Lock Washer (1/4")
41.	105-197	3	⁹ Bolt (1/4-NC x 1")

¹Five groove sheave ends with S/N 300205. See footnote 10.²Four groove sheave begins with S/N 300206. See footnote 10.³Ends with S/N 301926. Used on machines with double row idler sprocket.⁴Begin with S/N 301927. Used on machines with single row idler sprocket.⁵Early sprocket hubs used zerks with 1/4-NF threads. See footnote 6.⁶Present production and replacement sprocket hubs use zerks with 1/8-NPT threads.⁷Replacement transmission yokes require use of yoke spacer. See TRANSMISSION to order yoke spacer. Refer to Technical Bits.⁸This part replaces earlier style cross and bearings.⁹Bolts and washers (ref. no.'s 40 and 41) are used in place of those that come with the sheave bushing. See footnote 2.¹⁰This sheave and bushing (ref. no.'s 23 and 24) are used with units converted to 3 strand belts per service bulletin 052-711.

JACKSHAFT

No. 50 Drive Chain

(Begins with S/N 3D0749)



Ref. No.	Part Number	Qty.	Description
	165-497		Jackshaft Parts Assembly (Incl. ref. no.'s 6, 9, 10, 12, 13, 15 thru 21, 25 thru 32 and 39)
1.	105-058	2	Spring Washer (1/2")
2.	105-065	2	Locknut (1/2-NC)
3.	105-831	4	Flange Lock Bolt (1/2-NC x 1-1/2")
4.	105-208	1	Bolt (1/2-NC x 1-1/4")
5.	105-702	2	Setscrew (3/8-NC x 3/8")
6.	105-714	2	Setscrew (3/8-NC x 1")
7.	110-022	1	Knob (1/2-NC)
8.	115-003	2	Zerk (1/4-NPT, STR)
9.	115-017	1	Zerk (1/8-NPT, x 65°)
10.	115-001	1	Zerk (1/8-NPT, STR)
11.	115-003	2	Zerk (1/4-NPT, STR)
12.	115-467	1	External Snap Ring (2.377" ID)
13.	115-486	2	External Retaining Ring (2.394" ID)
14.	115-656	1	Friction Washer (1/2")
15.	125-211	2	Bearing (1.5" ID x 1" LG)
16.	125-212	2	Bearing (1.5" ID x 1-1/4" LG)
17.	125-230	4	Race (1.499" OD)
18.	125-503	2	Pillow Block Bearing (1.25" ID)—Incl. ref. no. 8
	125-708		Lock Collar (Incl. ref. no. 5)
19.	155-813	2	Internal Seal (1.5" ID)
20.	165-450	1	Jackshaft (1.25" OD x 20.25" LG, 10 S)
21.	165-909	2	Key (5/16" SQ x 1-1/8")

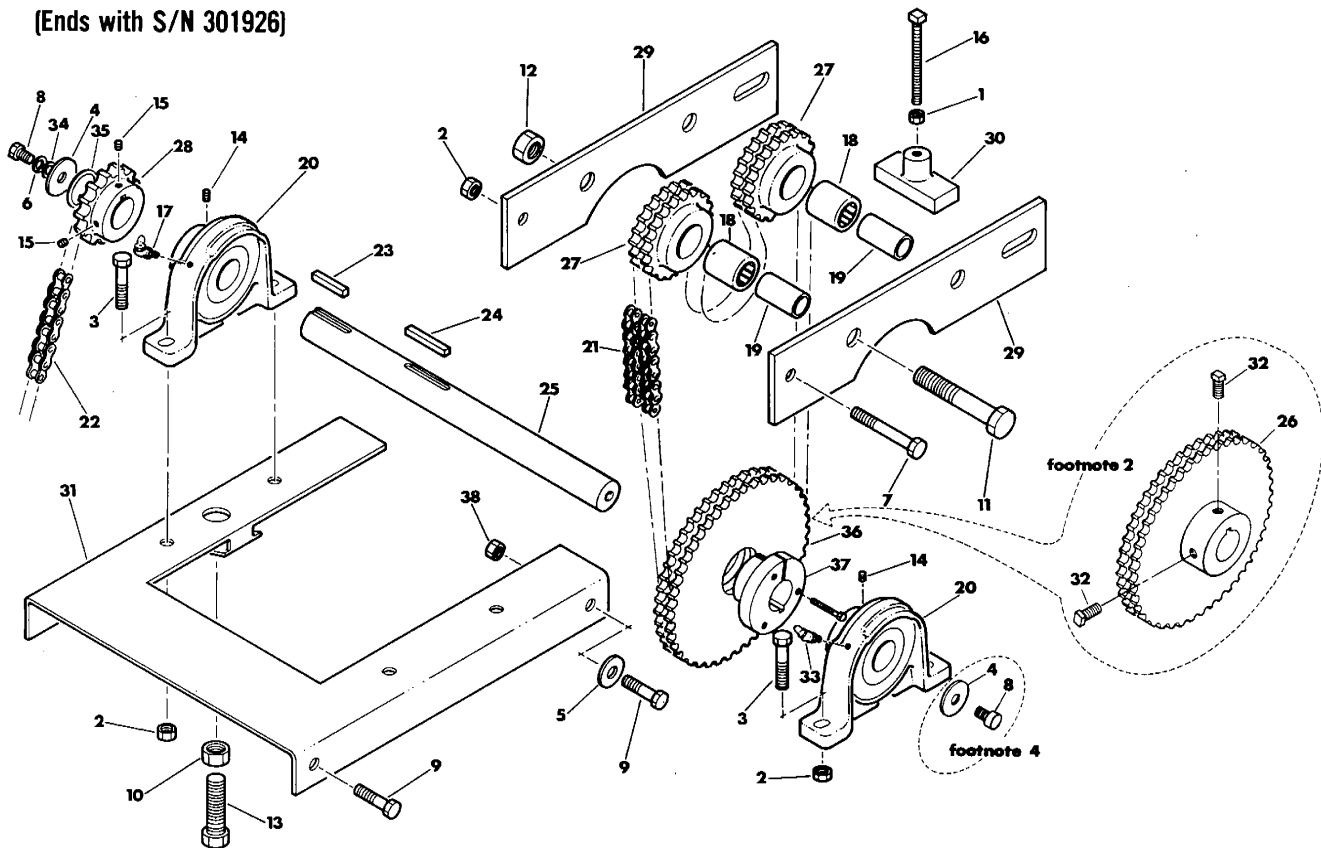
Ref. No.	Part Number	Qty.	Description
22.	165-921	1	Key (5/16" SQ x 2-1/2")
23.	170-236	1	Sheave (4 groove, 4.75" OD)
24.	170-157	1	Sheave Bushing (1.25" ID)
25.	175-043	1	Sprocket (30 S, 21 T, 2.45" ID, 3.62" OD)
26.	175-284	1	Sprocket (30 S, 17 T, 2.45" ID, 3.72" OD)
27.	180-053	1	Brass Bushing (1.25" ID x 2.75" OD)
28.	180-054	1	Lock Collar (1.253" ID x 2.75" OD)
29.	180-118	3	Brass Bushing (1.25" ID x 2.375" OD)
30.	180-604	1	Drive Sprocket Hub (30 S, 2 groove)
31.	180-606	1	Splined Clutch Hub (30 S)
32.	180-613	1	Shifting Collar (30 S)
33.	180-704	1	Transmission Yoke (10 S)
34.	180-705	1	Jackshaft Yoke (10 S)
35.	180-766	2	Cross and Bearing (Incl. ref. no. 11)
	182-083		Bearing Cap (greaseable)
	180-760		Bearing Cap (nongreaseable)
36.	180-725	1	Double Center Yoke
37.	360-940	1	Clutch Fork
38.	361-413	1	Mobile Dig Shifter
39.	115-467	1	External Snap Ring (2.377" ID)
40.	105-079	3	Lock Washer (1/4")
41.	105-197	3	Bolt (1/4-NC x 1")
42.	105-833	4	Flange Lock Nut (1/2-NC)
43.	180-673	1	Drive Sprocket Hub (30 S, 3 groove)

¹Bolts and washers (ref. no.'s 40 and 41) are used in place of those that come with the sheave bushing.

CHAIN IDLER and INTERMEDIATE SHAFT

DOUBLE ROW IDLER SPROCKETS

(Ends with S/N 301926)



Ref. No.	Part Number	Qty.	Description
1.	105-053	1	Nut (3/8-NC)
2.	105-065	5	Locknut (1/2-NC)
3.	105-066	4	Bolt (1/2-NC x 1-3/4")
4.	105-069	2	Washer (3/8")
5.	105-071	2	Washer (1/2")
6.	105-072	1	Lock Washer (3/8")
7.	105-082	1	Bolt (1/2-NC x 2-1/2")
8.	105-181	2	Bolt (3/8-NC x 1/2")—early style
	105-032	2	Bolt (3/8-NC x 3/4")
9.	105-319	4	Bolt (3/4-NC x 1-1/2")—early style
	105-208	4	Bolt (1/2-NC x 1-1/4")
10.	105-310	1	Jam Nut (3/4-NC)
11.	105-321	2	Bolt (3/4-NC x 3")
12.	105-372	2	Locknut (3/4-NC)
13.	105-499	1	Bolt (3/4-NC x 1-3/4")
14.	105-702	2	Setscrew (3/8-NC x 3/8")
15.	105-704	2	Setscrew (5/16-NC x 1/4")
	105-701	2	Setscrew (5/16-NC x 3/8")—replacements
16.	105-706	1	Setscrew (3/8-NC x 3")
17.	115-005	1	Zerk (1/4-NF x 90°)
18.	125-322	2	Bearing (1" ID x 1.3125" OD)
19.	125-323	2	Race (.75" ID x 1" OD)
20.	125-503	2	⁵ Pillow Block Bearing (1.25" ID)— Incl. ref. no. 17
	125-708		Lock Collar (1.25" ID)— Incl. ref. no. 14
21.	129-906		Double Roller Chain (No.35-2, 148 P)
	129-903		Roller Link (No.35)
	129-904		Double Connector Link (No.35)
	129-905		Double Offset Link (No.35)

Ref. No.	Part Number	Qty.	Description
22.	130-123	1	Roller Chain (No. 50, 51 P)
	130-101		Connector Link (No. 50)
	130-102		Offset Link (No. 50)
	130-113		Roller Link (No. 50)
23.	165-915	1	Key (5/16" SQ x 1")
24.	165-936	1	Key (5/16" SQ x 1-1/2")
25.	167-001	1	⁴ Intermediate Shaft (1.25" OD x 11.97" LG)
26.	174-901	1	² Double Sprocket (64 T, 1.25" ID x 7" OD)—use with anaerobic adhesive
27.	174-905	2	Double Sprocket (28 T, 1.313" ID x 3.55" OD)
28.	175-268	1	Sprocket (18 T, 1.25" ID x 3.919" OD)
29.	300-813	2	Idler Sprocket Support Bar
30.	300-814	1	Chain Adjuster
31.	300-816	1	Intermediate Shaft Mount
32.	105-714	2	² Setscrew (3/8-NC x 1", SQ HD)
33.	115-006	1	Zerk (1/4-NF x 45°)
34.	105-118	AR	Washer (3/8")
35.	110-056	AR	Machinery Bushing (1-1/4" ID x 1-7/8" OD)
36.	174-907	1	³ Double Sprocket (64 T, 2.152" taper ID x 7.38" OD)—accepts bushing
37.	170-230	1	³ Sheave Bushing (1.25" ID)
	170-162		Bolt Group
38.	105-372	4	Locknut (3/4-NC)—early style
	105-065	4	Locknut (1/2-NC)

¹Ends with S/N 301188. Used when shaft is drilled and tapped on one end only.

²Ends with S/N 301509. Keyed intermediate double sprocket is replaced by tapered double sprocket and sheave bushing (ref. no.'s 36 and 37).

³Begins with S/N 301510.

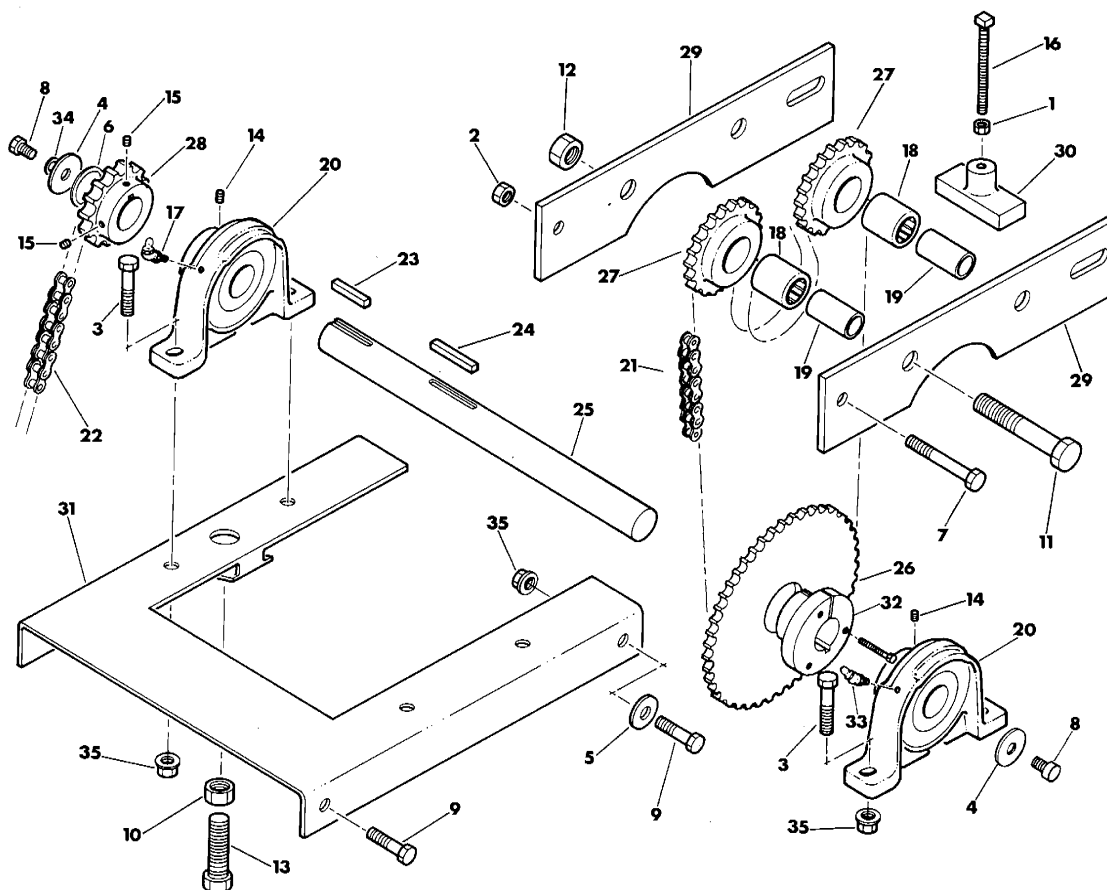
⁴Begins with S/N 301189. Replacement intermediate shafts require bolt on both ends.

⁵Refer to special tool diagram 052-517.

CHAIN IDLER and INTERMEDIATE SHAFT

SINGLE ROW SPROCKETS

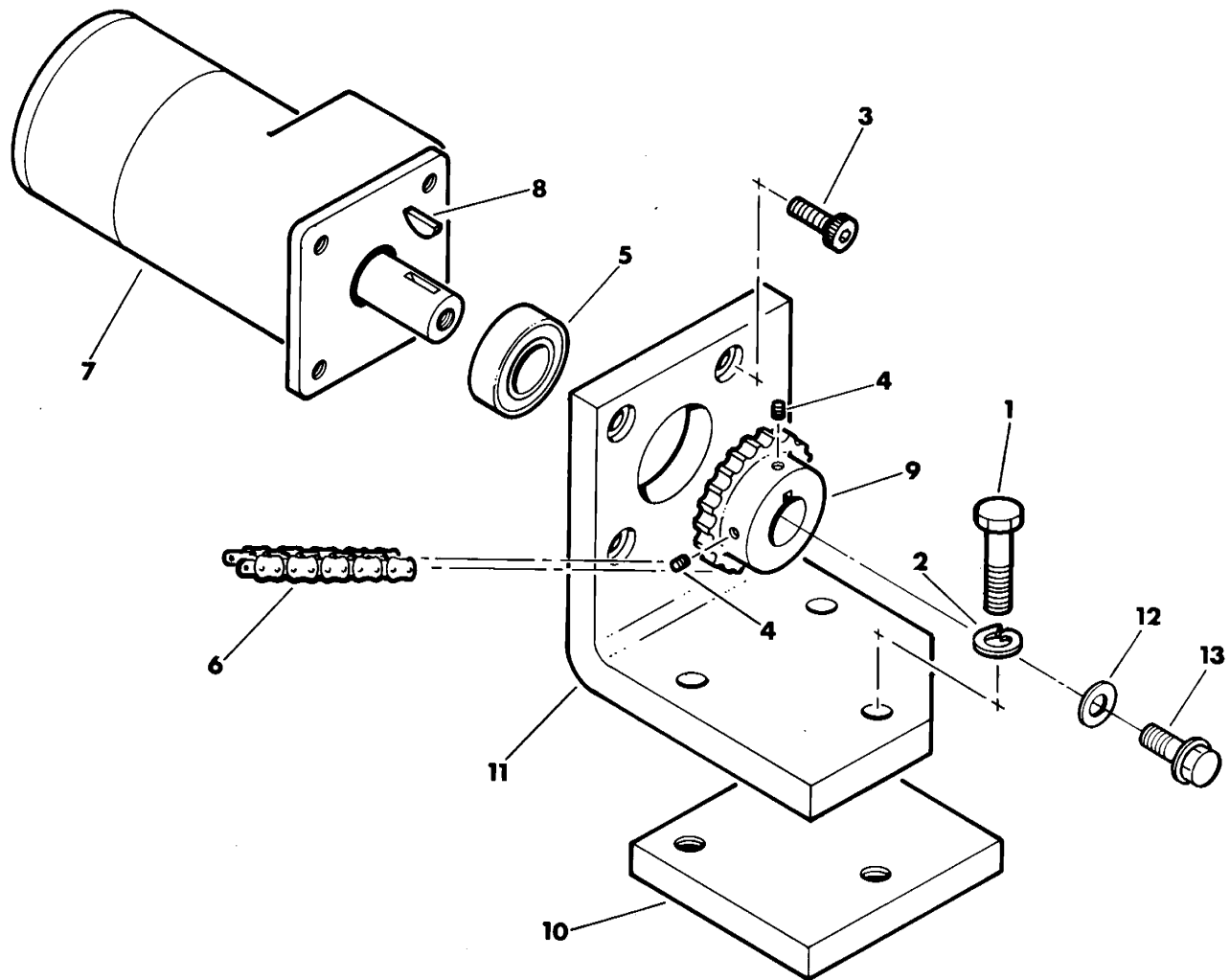
(Begins with S/N 301927)



Ref. No.	Part Number	Qty.	Description
1.	105-053	1	Nut (3/8-NC)
2.	105-065	1	Locknut (1/2-NC)
3.	105-066	4	Bolt (1/2-NC x 1-3/4")—early models
	105-831	4	Flange Lock Bolt (1/2-NC x 1-1/2")
4.	105-069	2	Washer (3/8" ID x 1-1/2" OD)
5.	105-071	2	Washer (1/2")
6.	110-056	AR	Machinery Bushing (1-1/4" ID x 1-7/8" OD)
7.	105-082	1	Bolt (1/2-NC x 2-1/2")
8.	105-826	2	Flange Lock Bolt (3/8-NC x 1")
9.	105-208	4	Bolt (1/2-NC x 1-1/4")
10.	105-310	1	Jam Nut (3/4-NC)
11.	105-321	2	Bolt (3/4-NC x 3")
12.	105-372	2	Locknut (3/4-NC)
13.	105-499	1	Bolt (3/4-NC x 1-3/4")
14.	105-702	2	Flange Lock Bolt (3/8-NC x 3/8")
15.	105-704	2	Setscrew (5/16-NC x 1/4")
	105-701	2	Setscrew (5/16-NC x 3/8")—replacements
16.	105-706	1	Setscrew (3/8-NC x 3")
17.	115-003	1	Zerk (1/4-NPT, STR)
18.	125-322	2	Bearing (1" ID x 1.3125" OD)
19.	125-323	2	Race (.75" ID x 1" OD)
20.	125-503	2	Pillow Block Bearing (1.25" ID)—
			Incl. ref. no. 17)
	125-708		Lock Collar (1.25" ID)—Incl. ref. no. 14

Ref. No.	Part Number	Qty.	Description
21.	130-021	1	Roller Chain (No. 40, 110 P)
	130-001		Connector Link (No. 40)
	130-002		Offset Link (No. 40)
	130-017		Roller Link (No. 40)
22.	130-123	1	Roller Chain (No. 50, 51 P)
	130-101		Connector Link (No. 50)
	130-102		Offset Link (No. 50)
	130-113		Roller Link (No. 50)
23.	165-915	1	Key (5/16" SQ x 1")
24.	165-936	1	Key (5/16" SQ x 1-1/2")
25.	167-001	1	Intermediate Shaft (1.25" OD x 11.97" LG)
26.	175-056	1	Sprocket (48 T, 2.1875" ID x 7.912" OD)
27.	175-057	2	Sprocket (21 T, 1.312" ID x 3.62" OD)
28.	175-268	1	Sprocket (18 T, 1.25" ID x 3.919" OD)
29.	300-813	2	Idler Sprocket Support Bar
30.	300-814	1	Chain Adjuster
31.	300-816	1	Intermediate Shaft Mount
32.	170-230	1	Sheave Bushing (1.25" ID)
	170-162		Bolt Group
33.	115-006	1	Zerk (1/4-NF x 45°)
34.	105-118	AR	Washer (3/8")
35.	105-065	4	Locknut (1/2-NC)—early models
	105-833	4	Flange Locknut (1/2-NC)

HYDRAULIC MOTOR DRIVE



Ref. No.	Part Number	Qty.	Description
1.	105-066	3	Bolt (1/2-NC x 1-3/4")—early models
	105-831	3	Flange Lock Bolt (1/2-NC x 1-1/2")
2.	105-070	3	Lock Washer (1/2")
3.	105-220	4	Bolt (3/8-NC x 1", CSK ALN HD)
4.	105-704	2	Setscrew (5/16-NC x 1/4")
	105-701	2	Setscrew (5/16-NC x 3/8")
5.	125-007	1	Bearing (1" ID x 2" OD)
6.	130-019	1	⁴ Chain (No.40, 57 P)
	130-001	1	⁴ Connector Link (No.40)
	130-002		⁴ Offset Link (No.40)
	130-017		⁴ Roller Link (No.40)
	130-115	1	⁵ Chain (No.50, 45 P)
	130-101	1	⁵ Connector Link (No.50)
	130-102		⁵ Offset Link (No.50)
	130-113		⁵ Roller Link (No.50)

Ref. No.	Part Number	Qty.	Description
7.	155-551	1	¹ Hydraulic Motor (NPT)
	155-570	1	² Hydraulic Motor (SAE)
	155-568	1	³ Hydraulic Motor (manifold)
8.	165-931	1	Woodruff Key (1/4" x 1")—early models
	165-998	1	Woodruff Key (1/4" x 5/8")
9.	175-022	1	⁴ Sprocket (24 T, 1" ID x 4.1" OD)
	175-283	1	⁵ Sprocket (19 T, 1" ID x 4.12" OD)
10.	316-368	1	Adjusting Plate
11.	360-227	1	Hydraulic Motor Mount Bracket
12.	105-868	1	Washer (1/4")
13.	105-820	1	Flange Lock Bolt (1/4-NC x 3/4")

¹Ends with S/N 301478. Refer to Pump and Valve Hydraulics — WISCONSIN ENGINE — (Ends with S/N 302099) for replacement parts.

²S/N 301479 thru S/N 302099. This motor has SAE threads.

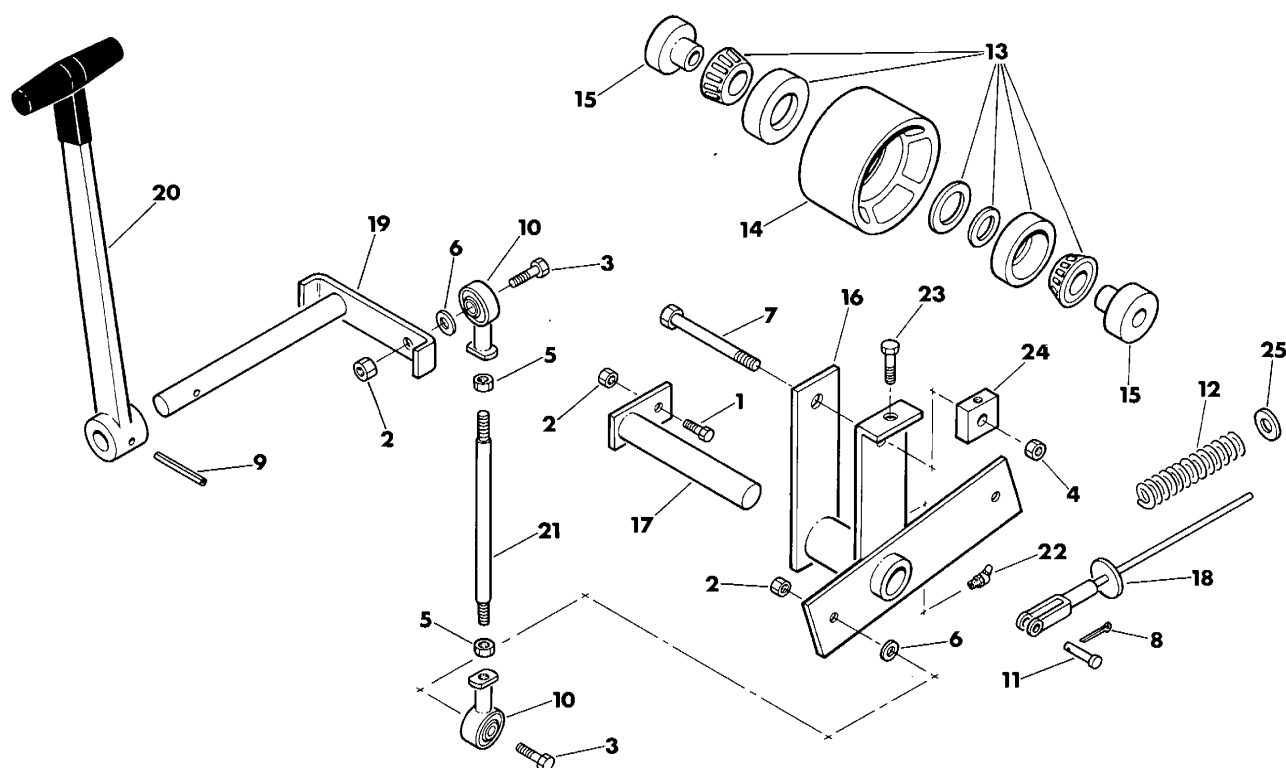
³Begins with S/N 302100. This hydraulic motor uses a counter-balance manifold.

⁴Ends with S/N 300748. Associated with No. 40 drive chain (ref. no. 6).

⁵Begins with S/N 300749. Associated with No. 50 drive chain (ref. no. 6).

BELT CLUTCH

(Ends with S/N 300205)



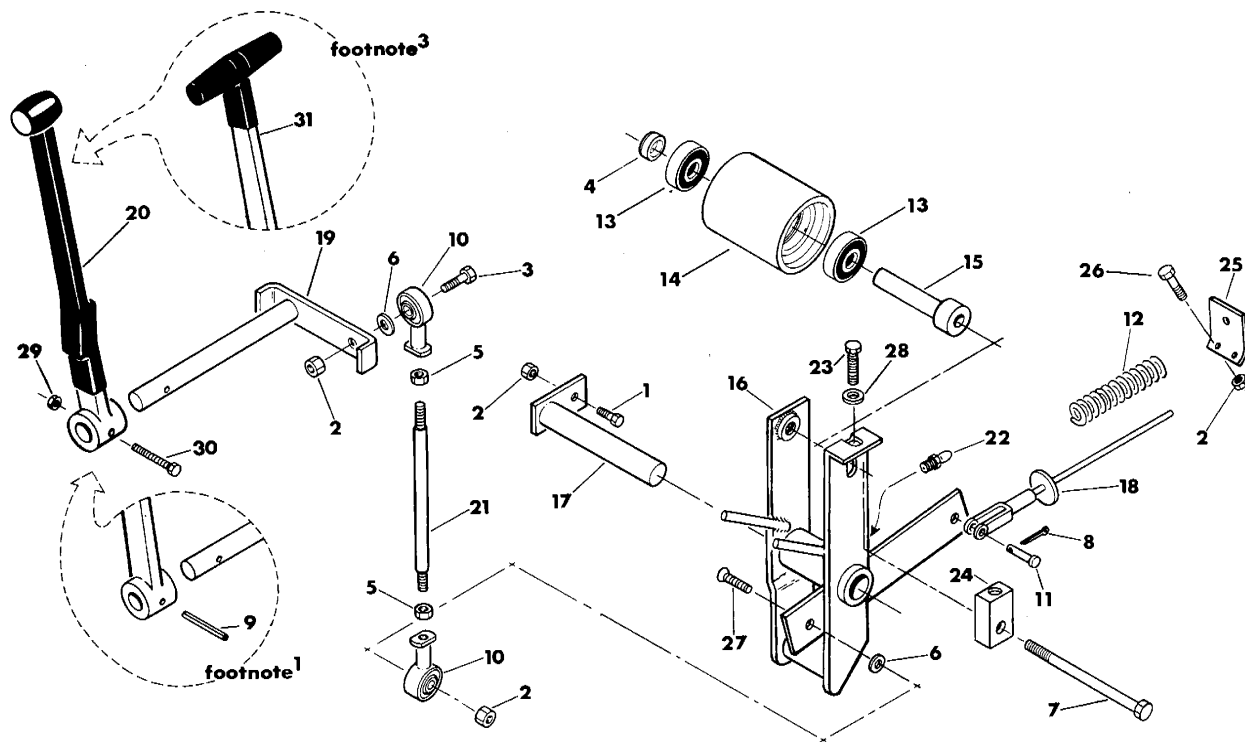
Ref. No.	Part Number	Qty.	Description
1.	105-031	1	Bolt (3/8-NC x 1")
2.	105-047	3	Locknut (3/8-NC)
3.	105-052	2	Bolt (3/8-NC x 1-1/4")
4.	105-065	1	Locknut (1/2-NC)
5.	105-093	2	Nut (3/8-NF)
6.	105-118	2	Washer (3/8")
7.	105-111	1	Bolt (1/2-NC x 4")
8.	105-509	1	Cotter Pin (1/8" x 1")
9.	105-529	1	Roll Pin (5/16" x 1-1/2")
10.	110-102	2	Rod End (3/8-NF)
11.	110-053	1	Clevis Pin (3/8")
12.	115-603	1	Compression Spring (8" LG)
13.	125-282	1	Bearing (1" ID x 1.98" OD)

Ref. No.	Part Number	Qty.	Description
14.	170-310	1	Belt Idler Roller (1.98" ID x 3.75" OD)
15.	181-295	2	Roller Spacer (.515" ID x 1.245" LG)
16.	361-426	1	Roller Support
17.	361-430	1	Clutch Arm
18.	361-432	1	Clutch Rod
19.	361-433	1	Clutch Pin
20.	361-435	1	Clutch Lever
21.	361-447	1	Clutch Link Rod (11.5" LG)
22.	115-006	1	Zerk (1/4-NF x 45°)
23.	105-192	1	Bolt (5/16-NC x 1-1/2", Nylok)
24.	361-467	1	Idler Adjustment Block
25.	105-359	1	Washer (5/8")

¹Refer to special tool diagram 052-509.

BELT CLUTCH

(Begins with S/N 300206)

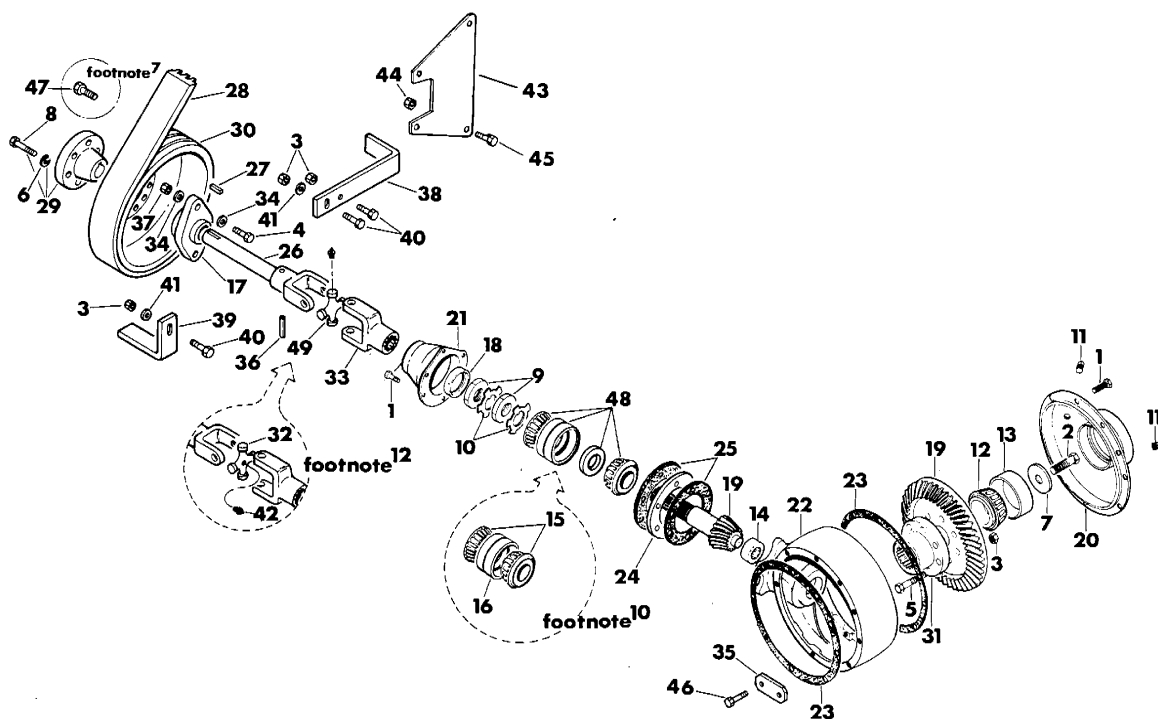


Ref. No.	Part Number	Qty.	Description
1.	105-031	1	Bolt (3/8-NC x 1")
2.	105-047	5	Locknut (3/8-NC)
3.	105-052	1	Bolt (3/8-NC x 1-1/4")
4.	181-402	1	Roller Support Washer
5.	105-093	2	Nut (3/8-NF)
6.	105-118	2	Washer (3/8")
7.	105-472	1	Bolt (1/2-NC x 5")
8.	105-509	1	Cotter Pin (1/8" x 1")
9.	105-529	1	¹ Roll Pin (5/16" x 1-1/2")
10.	110-102	2	Rod End (3/8-NF)
11.	110-053	1	Clevis Pin (3/8")
12.	115-603	1	Compression Spring (8" LG)
13.	125-007	2	Ball Bearing (1" ID x 2" OD)
14.	170-313	1	Belt Idler Roller (2" ID x 4" OD)
15.	181-401	1	Belt Idler Spacer (.515" ID x 3.49" LG)
16.	361-567	1	² Roller Support
	361-575	1	² Roller Support
17.	361-565	1	Clutch Arm

Ref. No.	Part Number	Qty.	Description
18.	361-432	1	Clutch Rod
19.	361-433	1	Clutch Pin
20.	361-435	1	³ Clutch Lever (14" LG)
21.	361-476	1	Clutch Link Rod (10.25" LG)
22.	115-003	1	Zerk (1/4-NPT, STR)
23.	105-192	1	Bolt (5/16-NC x 1-1/2", Nylok)
24.	361-467	1	Idler Adjustment Block
25.	300-885	1	Rod Guide Plate
26.	105-099	2	Bolt (3/8-NC x 7/8")
27.	105-236	1	Bolt (3/8-NC x 1-1/4", CSK ALN HD)
28.	105-117	1	Washer (5/16")
29.	105-089	1	¹ Locknut (5/16-NC)
30.	105-178	1	¹ Bolt (5/16-NC x 2-1/2")
31.	361-969	1	³ Clutch Lever (15.25" LG)

¹Roll pin (ref. no. 9) may be replaced with nut and bolt (ref. no.'s 29 and 30).
²Replacement roller support replaces prior designs used on units after S/N 300206.

³Replace early style clutch lever (ref. no. 20) with new style lever (ref. no. 31).



Ref. No.	Part Number	Qty.	Description
1.	105-019	16	⁸ Bolt (3/8-NF x 1")
	105-827	16	⁹ Bolt (3/8-NC x 1-1/4")
2.	105-045	1	Bolt (1/2-NC x 1-1/4", Nylok)
3.	105-047	8	Locknut (3/8-NC)
4.	105-187	2	¹ Bolt (7/16-NF x 1-1/4")
	105-132	2	² Bolt (7/16-NC x 1-1/2")
	105-249	2	¹¹ Flange Lock Bolt (3/8-NC x 1-1/2")
5.	105-075	8	Bolt (3/8-NC x 2")
6.	105-091	3	³ Lock Washer (5/16")
7.	105-088	1	Washer
8.	105-109	3	³ Bolt (5/16-NC x 1-1/2")
9.	105-304	2	Jam Nut (1-5/16-NF)
10.	105-305	2	Tang Lock Washer (1-5/16")
11.	115-112	2	Pipe Plug (1/2")
12.	125-215	1	Bearing (1.687" ID)
13.	125-216	1	Race (3.265" OD)
14.	125-226	1	Bearing (1" ID x 2.042" OD)

Ref. No.	Part Number	Qty.	Description
15.	125-228	2	¹⁰ Bearing (1.5" ID)
16.	125-229	1	¹⁰ Race (3.151" OD)
17.	125-605	1	⁵ Flange Bearing (1.25" ID)
	125-708		Lock Collar (1.25" ID)
	105-702		Setscrew (3/8-NC x 3/8")
	115-003		Zerk (1/4-NF, STR)
18.	155-809	1	Internal Seal
19.	165-016	1	Ring Gear and Pinion Set
	165-070		Ring Gear and Pinion Parts Assembly (Incl. ref. no.'s 9, 10, 12, 13, 14, 15, 16 and 19)
20.	165-204	1	Ring Gear Cover Plate
21.	165-208	1	Pinion Cover
22.	165-210	1	⁸ Ring Gear and Pinion Housing (3/8-NF)
	165-300	1	⁹ Ring Gear and Pinion Housing (3/8-NC)
23.	165-607	AR	Gasket (.005" THK)
	165-609	AR	Gasket (.015" THK)
	165-627	AR	Gasket (.031" THK)

(Continued on following page.)

RIGHT ANGLE DRIVE (Cont'd.)

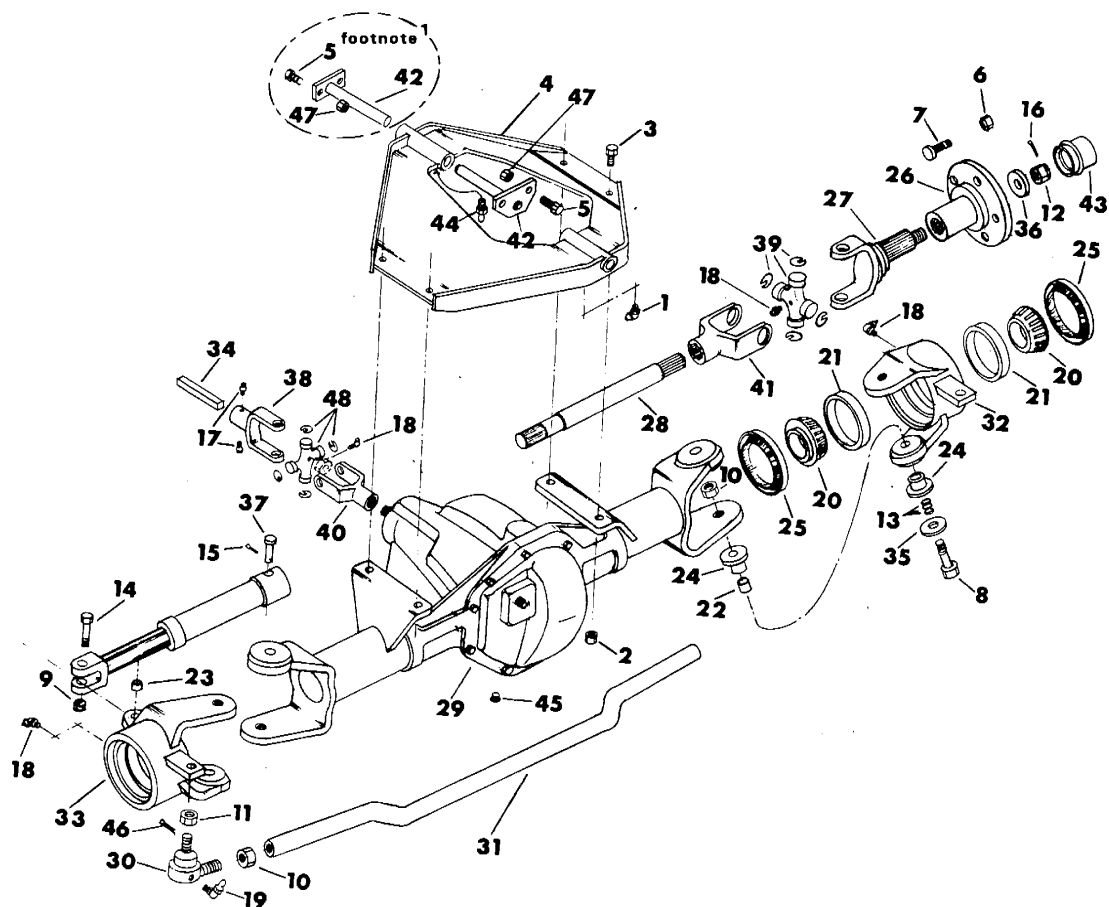
Ref. No.	Part Number	Qty.	Description
24.	165-612	1	Shim
25.	165-625	2	Pinion Cover Gasket
26.	165-479	1	³ Extension Shaft (5-3/8" LG)— Incl. ref. no. 36
	165-481	1	⁴ Extension Shaft (6-1/4" LG)— Incl. ref. no. 36
27.	165-927	1	Key (1/4" SQ x 1-1/4")
28.	170-057	1	³ Belt Set (5 strand)
	170-063	1	⁴ Belt Set (4 strand)
	170-062	1	⁵ Belt Set (3 strand)
29.	170-231	1	³ Sheave Bushing
	170-133	1	⁴ Sheave Bushing (Incl. bolt group)
	170-107		Bolt Group (Incl. bolts and washers)
30.	170-229	1	³ Sheave (5 groove)
	170-238	1	⁴ Sheave (4 groove)
	170-239	1	⁶ Sheave (3 groove)
31.	180-618	1	Ring Gear Hub
32.	180-723	1	¹² Cross and Bearing (Incl. ref. no. 42)—early models
	180-760		Bearing Cap
33.	182-054	1	Pinion Yoke
34.	105-059	2	¹ Washer (7/16")
35.	300-194	5	⁸ Bolt Lock
36.	105-507	1	Roll Pin (3/8" x 2")
37.	105-188	2	¹ Locknut (7/16-NF)
	105-151	2	² Locknut (7/16-NC)
	105-834	2	¹¹ Flange Locknut (3/8-NC)
38.	300-852	1	³ Upper Belt Retainer
	300-884	1	⁶ Upper Belt Retainer
39.	300-853	1	³ Lower Belt Retainer
	300-886	1	⁶ Lower Belt Retainer

Ref. No.	Part Number	Qty.	Description
40.	105-031	3	³ Bolt (3/8-NC x 1")
41.	105-118	2	³ Washer (3/8")
42.	115-010	1	Zerk (1/8-NPT x 22-1/2")—early models
43.	300-851	1	² Bearing Support Bracket
44.	105-065	2	² Locknut (1/2-NC)
45.	105-121	2	² Bolt (1/2-NC x 1")
46.	105-019	10	Bolt (3/8-NF x 1")—early style
	105-108	10	⁸ Bolt (3/8-NF x 1-1/4")
	105-827	10	⁹ Bolt (3/8-NC x 1-1/4")
47.	105-160	3	⁷ Bolt (5/16-NC x 1-1/4")
48.	125-304	1	¹⁰ Bearing (1.5" ID x 3.152" OD)
49.	180-766	1	¹² Cross and Bearing
	180-760		Bearing Cap
	182-083		Bearing Cap (w/zerk hole)
	115-003		Zerk (1/4-NPT, STR)

¹Ends with S/N 300137.²Begins with S/N 300138. See footnote 8.³Ends with S/N 300205. Associated with 5 groove sheave. See footnote 6 for converting to 3 groove sheaves and belts.⁴Begins with S/N 300206. Associated with 4 groove sheave.⁵Insure that concentric extension and lock collar are pointed toward the ring gear and pinion. This may necessitate removing and rotating (180°) the inner portion of the replacement flange bearing.⁶These parts are associated with field conversion of 5 groove to 3 groove sheave per service bulletin 052-711. If replacing belt set use 3 strands from 4 strand belt set (ref. no. 28).⁷Optional bolt may be used to plug unused holes in sheave.⁸These parts are associated with right angle drive housing with 3/8-NF threads.⁹These parts are associated with right angle drive housing with 3/8-NC threads.¹⁰Replace bearings and race (ref. no.'s 15 and 16) with bearing (ref. no. 48), which has preloaded spacer.¹¹Present production uses 3/8-NC hardware (ref. no.'s 4 and 37) to mount flange bearing.¹²Present production cross and bearing (ref. no. 49) may be used to replace early style cross and bearing (ref. no. 32).

FRONT STEERING

(Ends with S/N 302639)



Ref. No.	Part Number	Qty.	Description
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1.	115-006	1	Zerk (1/4-NF x 45")
2.	105-065	4	Locknut (1/2-NC)
3.	105-066	4	Bolt (1/2-NC x 1-3/4")
4.	300-809	1	Differential Mount
5.	105-099	4	¹ Bolt (3/8-NC x 7/8")
	105-121	4	² Bolt (1/2-NC x 1")
6.	105-114	10	Lug Nut (1/2-NF)
7.	105-123	10	Lug Bolt (1/2-NF x 1-1/2")
8.	105-912	4	⁴ Bolt (3/4-NF x 2-3/4")
	105-353	4	⁵ Bolt (3/4-NF x 2-5/8", nylok)
9.	105-357	1	Locknut (5/8-NC)
10.	105-404	6	Jam Nut (3/4-NF)
11.	105-405	2	Castle Nut (9/16-NF)
12.	105-410	2	Castle Nut (3/4-NF)
13.	105-451	12	Wave Spring Washer

Ref. No.	Part Number	Qty.	Description
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14.	105-462	1	Bolt (5/8-NC x 2-1/4")
15.	105-502	1	Cotter Pin (3/16" x 2")
16.	105-518	2	Cotter Pin (1/8" x 1-1/2")
17.	115-001	2	Zerk (1/8-NPT, STR)
18.	115-010	5	⁴ Zerk (1/8-NPT x 22-1/2")
	115-005	5	⁵ Zerk (1/4-NF x 90°)
19.	115-005	2	Zerk (1/4-NF x 90°)
20.	125-260	4	Bearing
21.	125-261	4	Race
22.	125-301	4	Bushing (1" OD)
23.	125-403	1	Bronze Bushing
24.	125-716	8	Urethane Flange Bushing
25.	155-808	4	Internal Seal
26.	160-117	2	Spindle Flange (Incl. ref. no. 7)

FRONT STEERING (Cont'd.)

(Ends with S/N 302639)

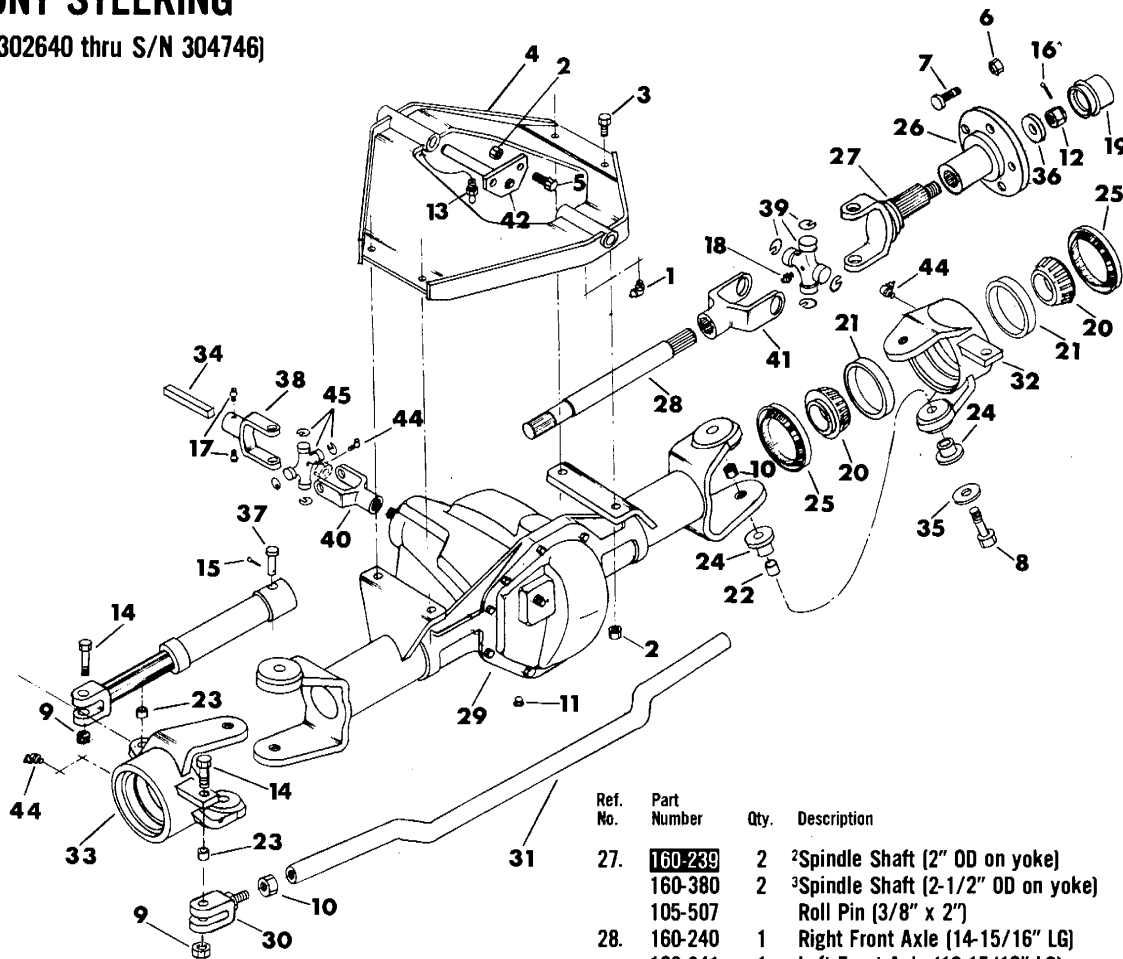
Ref. No.	Part Number	Qty.	Description
27.	160-239	2	⁴ Spindle Shaft (2" OD on yoke)
	160-380	2	⁵ Spindle Shaft (2-1/2" OD on yoke)
	105-507		Roll Pin (3/8" x 2")
28.	160-240	1	Right Front Axle (14-15/16" LG)
	160-241	1	Left Front Axle (12-15/16" LG)
29.	160-242	1	³ Front Differential (standard)
	160-243	1	³ Front Differential (limited slip)
30.	160-306	2	Tie Rod End (Incl. ref. no.'s 11 and 46)
31.	160-351	1	Tie Rod
32.	160-352	1	Left Spindle Housing
33.	160-353	1	Right Spindle Housing
34.	165-355	1	¹ Drive Shaft (10" LG)
	165-353	1	² Drive Shaft (13" LG)
35.	180-061	4	Spindle Yoke Washer
36.	180-279	2	Spindle Washer
37.	180-322	1	Cylinder Barrel Pin
38.	180-710	1	Yoke
39.	180-723	2	⁴ Cross and Bearing (Incl. ref. no. 18)
	180-760		Cap
	182-087	2	⁵ Cross and Bearing (Incl. ref. no. 18)
	115-500		Internal Snap Ring
40.	180-778	1	Differential Yoke
41.	182-046	2	⁴ Spindle Yoke (2" OD)
	182-084	2	⁵ Spindle Yoke (2-1/2" OD)

Ref. No.	Part Number	Qty.	Description
42.	183-144	2	¹ Axle Pivot Pin
	183-229	2	² Axle Pivot Pin
43.	205-671	2	Hub Cap
44.	115-003	1	Zerk (1/4-NF, STR)
45.	115-157	1	Pipe Plug (1/8-NPT, FM ALN HD)
46.	105-509	2	Cotter Pin (1/8" x 1")
47.	105-047	4	¹ Locknut (3/8-NC)
	105-065	4	² Locknut (1/2-NC)
48.	180-723	1	Cross and Bearing (Incl. ref. no. 18)
	180-760		Cap

¹Ends with S/N 300741. Used with single blade angle cylinder.²Begins with S/N 300742. Used with double blade angle cylinder.³Refer to FRONT STEERING—Begins with S/N 302640 for replacement differentials. See footnote 6.⁴Yoke (2" OD) and matching spindle shaft are no longer available. When replacing yoke (2" OD), matching spindle shaft or cross and bearing with parts associated with (2-1/2" OD) yoke then all three must be replaced and bolt and zerk (ref. no.'s 8 and 18) must be replaced with corresponding parts. See footnote 5.⁵These parts are associated with yoke (2-1/2" OD) and may not be mixed with parts associated with yoke (2" OD).⁶Refer to assembly instruction standard 052-182 or limited slip 052-183.

FRONT STEERING

(S/N 302640 thru S/N 304746)



Ref. No.	Part Number	Qty.	Description
1.	115-006	1	Zerk (1/4-NF x 45°)
2.	105-065	4	Locknut (1/2-NC)
3.	105-066	4	Bolt (1/2-NC x 1-3/4")
4.	300-809	1	Differential Mount
5.	105-121	4	Bolt (1/2-NC x 1")
6.	105-114	10	Lug Nut (1/2-NF)
7.	105-123	10	Lug Bolt (1/2-NF x 1-1/2")
8.	105-432	4	² Bolt (3/4-NF x 2-1/4")—use Loctite
	105-364	4	³ Bolt (3/4-NF x 2", Nylok)
9.	105-357	3	¹ Locknut (5/8-NC)
10.	105-404	2	² Jam Nut (3/4-NF)
11.	115-157	1	Pipe Plug (1/8-NPT, FM ALN HD)
12.	105-410	2	Castle Nut (3/4-NF)
13.	115-003	1	Zerk (1/4-NF, STR)
14.	105-462	3	¹ Bolt (5/8-NC x 2-1/4")
15.	105-502	1	Cotter Pin (3/16" x 2")
16.	105-518	2	Cotter Pin (1/8" x 1-1/2")
17.	115-001	2	Zerk (1/8-NPT, STR)
18.	115-010		² Zerk (1/8-NPT x 22-1/2")
	115-002		³ Zerk (1/8-NPT x 90°)
19.	205-671	2	Hub Cap
20.	125-260	4	Bearing
21.	125-261	4	Race
22.	181-552	4	¹ Bushing
23.	125-403	3	¹ Bronze Bushing
24.	125-735	8	¹ Flange Bushing
25.	155-808	4	Internal Seal
26.	160-117	2	Spindle Flange (Incl. ref. no. 7)

Ref. No.	Part Number	Qty.	Description
27.	160-239	2	² Spindle Shaft (2" OD on yoke)
	160-380	2	³ Spindle Shaft (2-1/2" OD on yoke)
	105-507		Roll Pin (3/8" x 2")
28.	160-240	1	Right Front Axle (14-15/16" LG)
	160-241	1	Left Front Axle (12-15/16" LG)
29.	161-046	1	¹ Front Differential (standard)
	161-047	1	¹ Front Differential (limited slip)
30.	160-377	2	¹ Tie Rod Clevis
31.	160-351	1	¹ Tie Rod
32.	160-378	1	¹ Left Spindle Housing
33.	160-379	1	¹ Right Spindle Housing
34.	165-353	1	Drive Shaft (13" LG)
35.	105-422	4	¹ Spindle Yoke Washer
36.	180-279	2	Spindle Washer
37.	180-322	1	Cylinder Barrel Pin
38.	180-710	1	Yoke
39.	180-723	2	² Cross and Bearing (2.625" LG cross)—Incl. ref. no. 18
	180-760		² Bearing Cap
	182-087	2	³ Cross and Bearing (3.209" LG cross)—Incl. ref. no. 18
	115-500		³ Internal Snap Ring
40.	180-778	1	Differential Yoke
41.	182-046	2	² Spindle Yoke (2" OD)
	182-084	2	³ Axle Yoke (2-1/2" OD)
42.	183-229	2	Axle Pivot Pin
43.	105-065	4	Locknut (1/2-NC)
44.	115-010	2	Zerk (1/8-NPT x 22-1/2")
45.	180-723	1	Cross and Bearing
	180-760		Bearing Cap

¹This differential may be replaced with differential shown on FRONT STEERING — [Begins with S/N 304747]. See footnote 4.

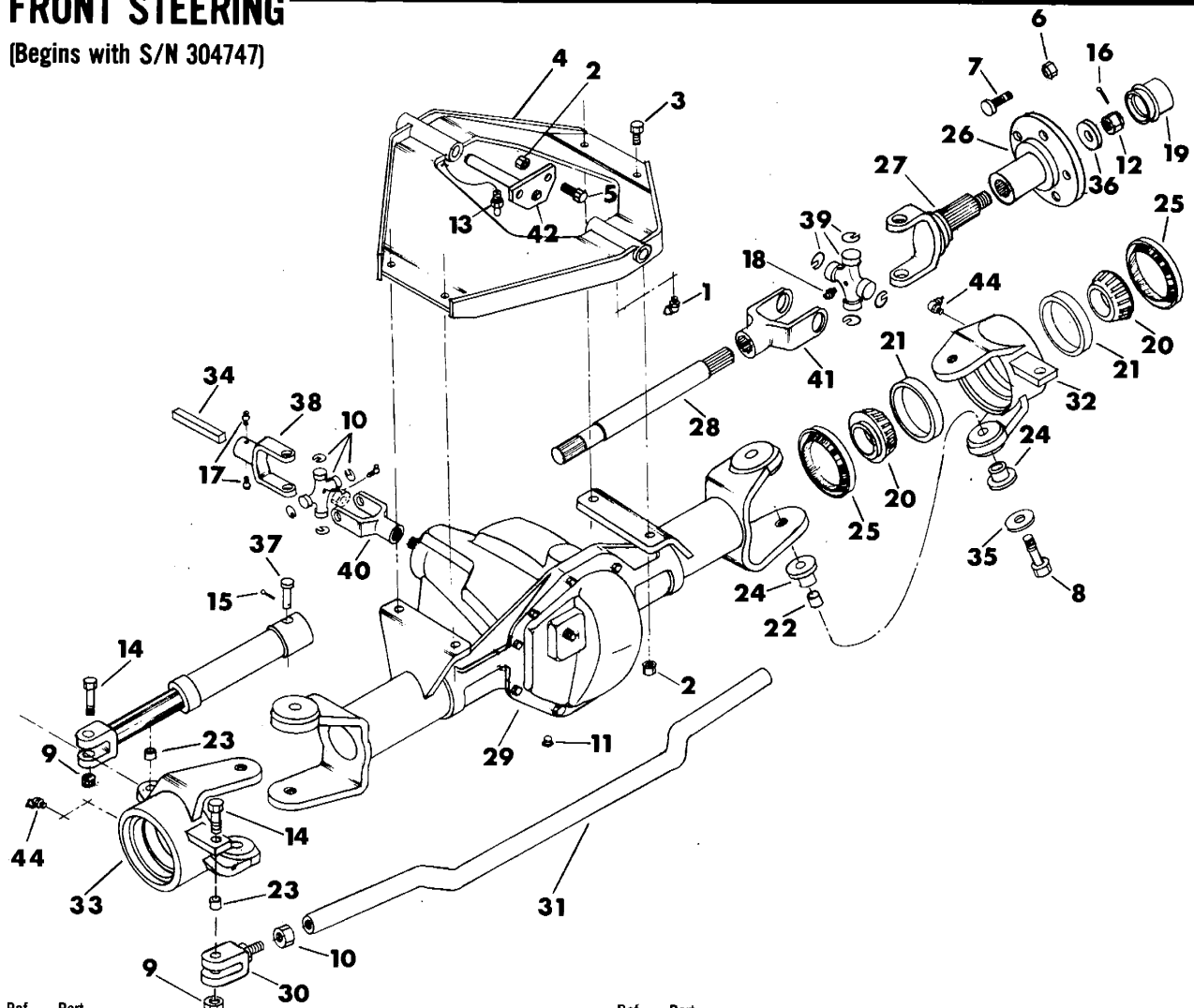
²Ends with S/N 303274. If yoke (2" OD) or cross and bearing or spindle shaft used with this size yoke are replaced with parts used with yoke (2-1/2" OD) then all three must be replaced and bolt and zerk (ref. no.'s 8 and 18) must be replaced with new parts. See footnote 3.

³Begins with S/N 303275.

⁴Refer to assembly instruction standard 052-182 or limited slip 052-183.

FRONT STEERING

(Begins with S/N 304747)



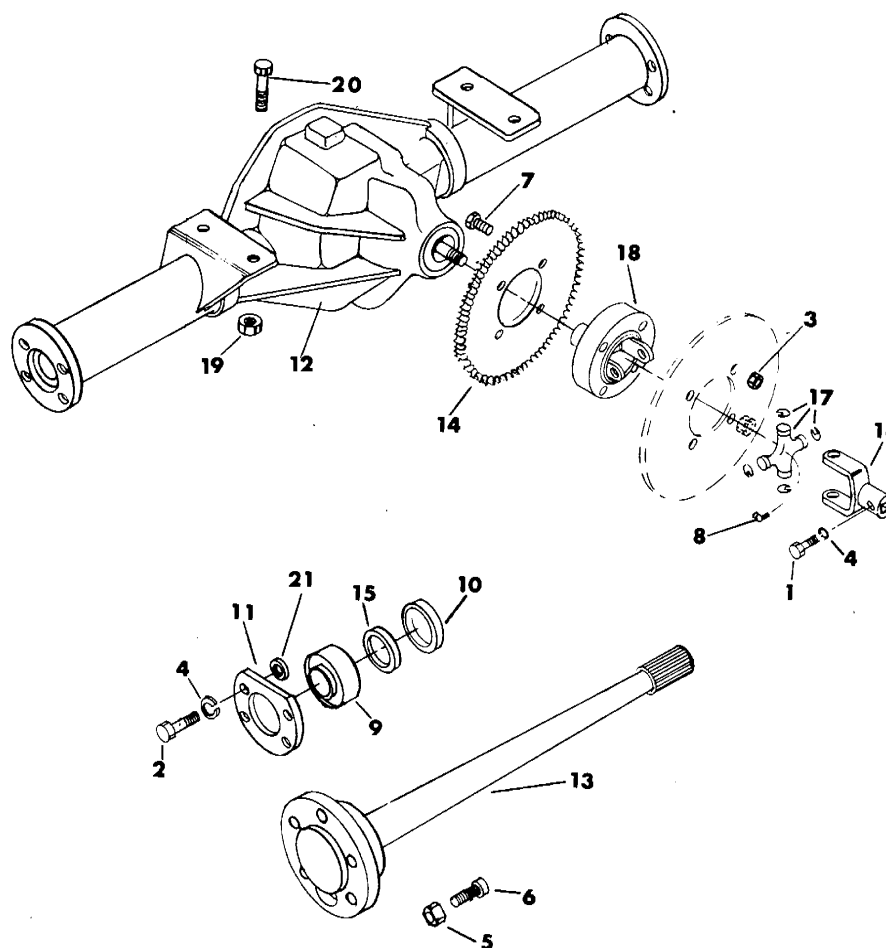
Ref. No.	Part Number	Qty.	Description
1.	115-006	1	Zerk (1/4-NF x 45°)
2.	105-065	8	Locknut (1/2-NC)
3.	105-066	4	Bolt (1/2-NC x 1-3/4")
4.	300-809	1	Differential Mount
5.	105-121	4	Bolt (1/2-NC x 1")
6.	105-114	10	Lug Nut (1/2-NF)
7.	105-123	10	Lug Bolt (1/2-NF x 1-1/2")
8.	105-364	2	Bolt (3/4-NF x 2", Nylok)—early models
	105-432	2	Bolt (3/4-NF x 2-1/4")—use loctite
9.	105-357	3	Locknut (5/8-NC)
10.	180-723	1	Cross and Bearing (Incl. ref. no. 18)
	180-760		Bearing Cap
	115-010		Zerk (1/8-NPT x 22-1/2")
11.	115-157	1	Pipe Plug (1/8-NPT, FM ALN HD)
12.	105-410	2	Castle Nut (3/4-NF)
13.	115-003	1	Zerk (1/4-NF, STR)
14.	105-462	3	Bolt (5/8-NC x 2-1/4")
15.	105-502	1	Cotter Pin (3/16" x 2")
16.	105-518	2	Cotter Pin (1/8" x 1-1/2")
17.	115-001	2	Zerk (1/8-NPT, STR)
18.	115-002		Zerk (1/8-NPT x 90°)
19.	205-671	2	Hub Cap
20.	125-260	4	Bearing
21.	125-261	4	Race
22.	181-552	4	Bushing
23.	125-403	3	Bronze Bushing
24.	125-735	8	Flange Bushing
25.	155-808	4	Seal

Ref. No.	Part Number	Qty.	Description
26.	160-117	2	Spindle Flange (Incl. ref. no. 7)
27.	160-380	2	Spindle Shaft (2-1/2" OD on yoke)
	105-507		Roll Pin (3/8" x 2")
28.	161-078	1	Right Front Axle (14-15/16" LG)
	161-079	1	Left Front Axle (12-15/16" LG)
29.	161-080	1	Front Differential (standard)
	161-081	1	Front Differential (limited slip)
30.	160-377	2	Tie Rod Clevis
31.	160-351	1	Tie Rod
32.	160-378	1	Left Spindle Housing
33.	160-379	1	Right Spindle Housing
34.	165-353	1	Drive Shaft (13" LG)
35.	105-422	4	Spindle Yoke Washer
36.	180-279	2	Spindle Washer
37.	180-322	1	Cylinder Barrel Pin
38.	180-710	1	Yoke
39.	182-087	2	Cross and Bearing (3.209" LG cross)—
			Incl. ref. no. 18
	115-500		Internal Snap Ring
40.	180-778	1	Differential Yoke
41.	182-084	2	Axle Yoke (2-1/2" OD)
42.	183-229	2	Axle Pivot Pin
43.	105-065	4	Locknut (1/2-NC)
44.	115-010	2	Zerk (1/8-NPT x 22-1/2")

¹When replacing the differential, on machines prior to S/N 302640, order parts (ref. no.'s 8, 9, 14, 22, 23, 24, 28 thru 33 and 35). See footnote 2 and 3.
²When replacing differentials on machines from S/N 302640 thru S/N 304746 new axles (ref. no. 28) must be ordered.
³Refer to assembly instruction standard 052-182 or limited slip 052-183.

REAR AXLE

https://truckmanualshub.com/



Ref. No.	Part Number	Qty.	Description
1.	105-031	1	Bolt (3/8-NC x 1")
2.	105-032	8	Bolt (3/8-NC x 3/4")
3.	105-047	4	Locknut (3/8-NC)
4.	105-072	9	Lock Washer (3/8")
5.	105-114	10	Lug Nut (1/2-NF)
6.	105-123	10	Lug Bolt (1/2-NF x 1-1/2")
7.	105-183	4	Bolt (3/8-NC x 2-1/2")
8.	115-010	1	Zerk (1/8-NPT x 22-1/2")
9.	125-005	2	Axle Bearing
10.	155-820	2	Internal Seal
11.	160-022	2	Axle Bearing Retainer
12.	160-256	1	¹ Rear Differential (standard)
	161-002	1	² Rear Differential (standard)
	160-268	1	¹ Rear Differential (limited slip)
	161-003	1	² Rear Differential (limited slip)
13.	160-164	1	Left Rear Axle Parts Assembly (Incl. ref. no.'s 6, 9, 11 and 15)
	160-165	1	Right Rear Axle Parts Assembly (Incl. ref. no.'s 6, 9, 11 and 15)

Ref. No.	Part Number	Qty.	Description
14.	175-253	1	Differential Sprocket (36 T)
15.	180-111	2	Axle Ring
16.	180-711	1	Differential Drive Yoke
17.	180-723	1	Cross and Bearing (Incl. ref. no. 8)
	180-760		Bearing Cap
18.	182-052	1	Flange Yoke
19.	105-065	4	¹ Locknut (1/2-NC)
	105-357	4	² Locknut (5/8-NC)
20.	105-066	4	¹ Bolt (1/2-NC x 1-3/4")
	105-358	4	² Bolt (5/8-NC x 1-1/2", GD 8)
21.	105-118	8	³ Washer (3/8")

¹Ends with S/N 301385. Refer to footnote 4.

²Begins with S/N 301386. Refer to footnote 4.

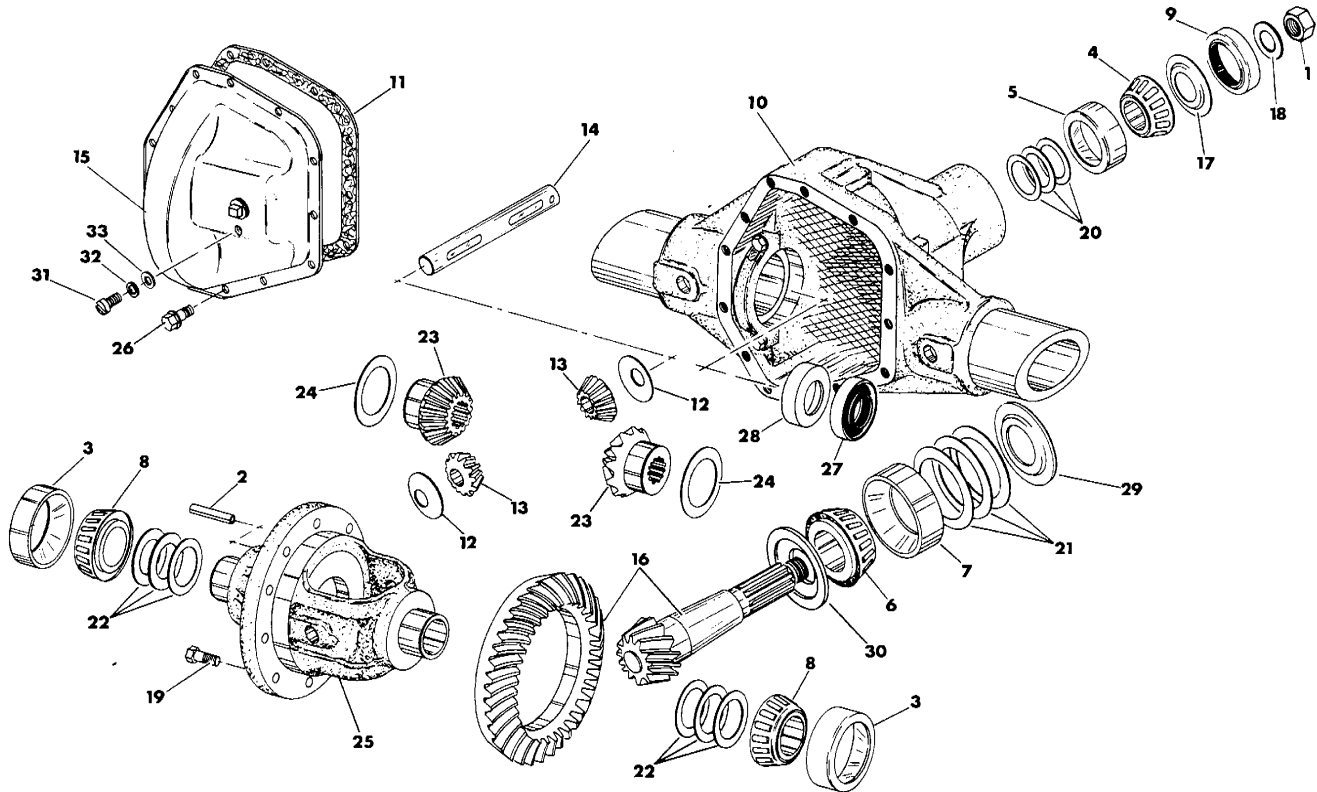
³Use washers (ref. no. 21) on machines prior to S/N 301386.

⁴Refer to assembly instruction 052-182 for standard or 052-183 for limited slip.

DIFFERENTIAL

DANA 44

STANDARD



Ref. No.	Part Number	Qty.	Description
1.	501-295	1	Pinion Locknut
2.	105-510	1	Roll Pin (1/4" x 1-1/2" LG)
3.	125-266	2	Carrier Race
4.	125-289	1	Pinion Bearing
5.	125-252	1	Pinion Race
6.	125-291	1	Pinion Gear Bearing
7.	125-251	1	Pinion Gear Race
8.	125-293	2	Carrier Bearing
9.	155-851	1	Internal Seal
10.	161-005	1	⁴ Differential Housing (Incl. bearing caps and bolts)—rear differential only
	161-076	1	⁵ Differential Housing (Incl. bearing caps and bolts)—rear differential only
11.	165-618	1	Cap Gasket
12.	501-126	2	Washer
13.	160-048	2	Pinion Gear
14.	501-278	1	Pinion Shaft
15.	501-284	1	Differential Cover
16.	501-286	1	Ring Gear and Pinion Set (Incl. ref. no. 1)
17.	501-294	1	Oil Slinger
18.	501-296	1	Washer
19.	501-297	10	Ring Gear Bolt
20.	501-298	AR	Pinion Shim (.003")
	501-299	AR	Pinion Shim (.005")
	501-300	AR	Pinion Shim (.010")
	501-301	AR	Pinion Shim (.030")

Ref. No.	Part Number	Qty.	Description
21.	501-302	AR	Pinion Gear Shim (.003")
	501-303	AR	Pinion Gear Shim (.005")
	501-304	AR	Pinion Gear Shim (.010")
22.	501-305	AR	Carrier Shim (.003")
	501-306	AR	Carrier Shim (.005")
	501-307	AR	Carrier Shim (.010")
	501-308	AR	Carrier Shim (.030")
23.	501-318	2	Axle Gear
24.	501-125	2	Machinery Bushing
25.	501-323	1	Differential Case
	501-289		Differential Case Assembly (Incl. ref. no.'s 2, 12, 13, 14, 23, 24 and 25)
26.	501-325	10	Flange Lock Bolt (5/16-NC x 5/8")
27.	155-820	2	⁶ Internal Seal (front only)
	157-503	2	⁷ Internal Seal (front only)
	181-796	2	³ Axle Seal Spacer
28.	181-273	2	¹ Axle Shaft Guide (front only)
	155-820	2	² Internal Seal (front only)
29.	501-373	1	Oil Slinger
30.	501-569	1	Oil Slinger
31.	105-173	1	⁵ Bolt (1/4-NC x 3/8", RD SLT HD)
32.	105-284	1	⁵ Washer (3/16")
33.	155-751	1	⁵ Neoprene Washer

¹Ends with S/N 300762.

²S/N 300763 thru S/N 304746.

³Axle seal spacer is required when differential, on machines prior to S/N 304747, is being fitted with new seal (ref. no. 27/footnote 7) and new axles. Refer to item 9 Technical Bits 12/20/84 and to FRONT STEERING — (Begins with S/N 304747).

⁴Ends with S/N 301385.

⁵Begins with S/N 301386.

⁶Ends with S/N 304746.

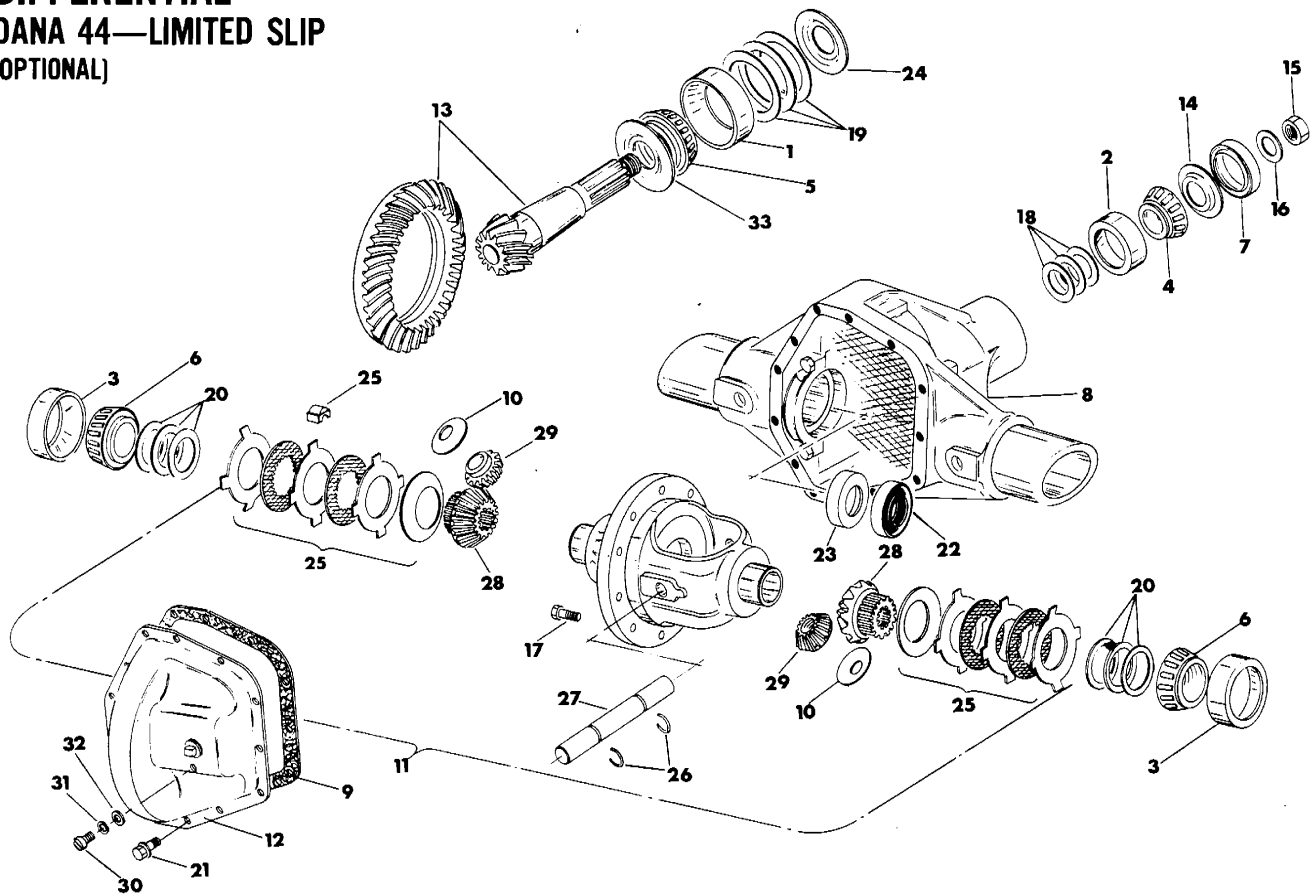
⁷Begins with S/N 304747. See footnote 3.

NOTE: Refer to assembly instruction 052-182.

DIFFERENTIAL

DANA 44—LIMITED SLIP

(OPTIONAL)



Ref. No.	Part Number	Qty.	Description
1.	125-251	1	Pinion Gear Race
2.	125-252	1	Pinion Race
3.	125-266	2	Carrier Race
4.	125-289	1	Pinion Bearing
5.	125-291	1	Pinion Gear Bearing
6.	125-293	2	Carrier Bearing
7.	155-851	1	Internal Seal
8.	161-005	1	⁴ Differential Housing (Incl. bearing caps and bolts)—rear differential only
	161-076	1	⁵ Differential Housing (Incl. bearing caps and bolts)—rear differential only
9.	165-618	1	Cap Gasket
10.	501-126	2	Washer
11.	501-274	1	Differential Case Assembly (Incl. ref. no.'s 10 and 25 thru 29)
12.	501-284	1	Differential Cover
13.	501-286	1	Ring Gear and Pinion Set (Incl. ref. no. 15)
14.	501-294	1	Oil Slinger
15.	501-295	1	Pinion Locknut
16.	501-296	1	Washer
17.	501-297	10	Ring Gear Bolt
18.	501-298	AR	Pinion Shim (.003")
	501-299	AR	Pinion Shim (.005")
	501-300	AR	Pinion Shim (.010")
	501-301	AR	Pinion Shim (.030")
19.	501-302	AR	Pinion Gear Shim (.003")
	501-303	AR	Pinion Gear Shim (.005")
	501-304	AR	Pinion Gear Shim (.010")

Ref. No.	Part Number	Qty.	Description
20.	501-305	AR	Carrier Shim (.003")
	501-306	AR	Carrier Shim (.005")
	501-307	AR	Carrier Shim (.010")
	501-308	AR	Carrier Shim (.030")
21.	501-325	10	Flange Lock Bolt (5/16-NC x 5/8")
22.	155-820	2	⁶ Internal Seal (front only)
	157-503	2	⁷ Internal Seal (front only)
	181-796	2	⁸ Axle Seal Spacer
23.	181-273	2	² Axle Shaft Guide (front only)
	155-820	2	³ Internal Seal (front only)
24.	501-373	1	Oil Slinger
25.	501-592	2	Clutch Pack
26.	501-593	2	Retainer Ring
27.	501-594	1	Axle Shaft
28.	501-595	2	Axle Gear
29.	501-596	2	Axle Gear
30.	105-173	1	⁵ Bolt (1/4-NC x 3/8", RD SLT HD)
31.	105-284	1	⁵ Washer (3/16")
32.	155-751	1	⁵ Neoprene Washer
33.	501-569	1	¹ Oil Slinger

¹Used on present rear differentials.

²Ends with S/N 300743.

³S/N 300744 thru S/N 304746.

⁴Ends with S/N 301385.

⁵Begins with S/N 301386.

⁶Ends with S/N 304746.

⁷Begins with S/N 304747. See footnote 8.

⁸Axle seal spacer is required when differential, on machines prior to S/N 304747, is being fitted with new seal (ref. no. 27/footnote 7) and new axles. Refer to item 9 Technical Bits 12/20/84 and to FRONT STEERING — (Begins with S/N 304747).

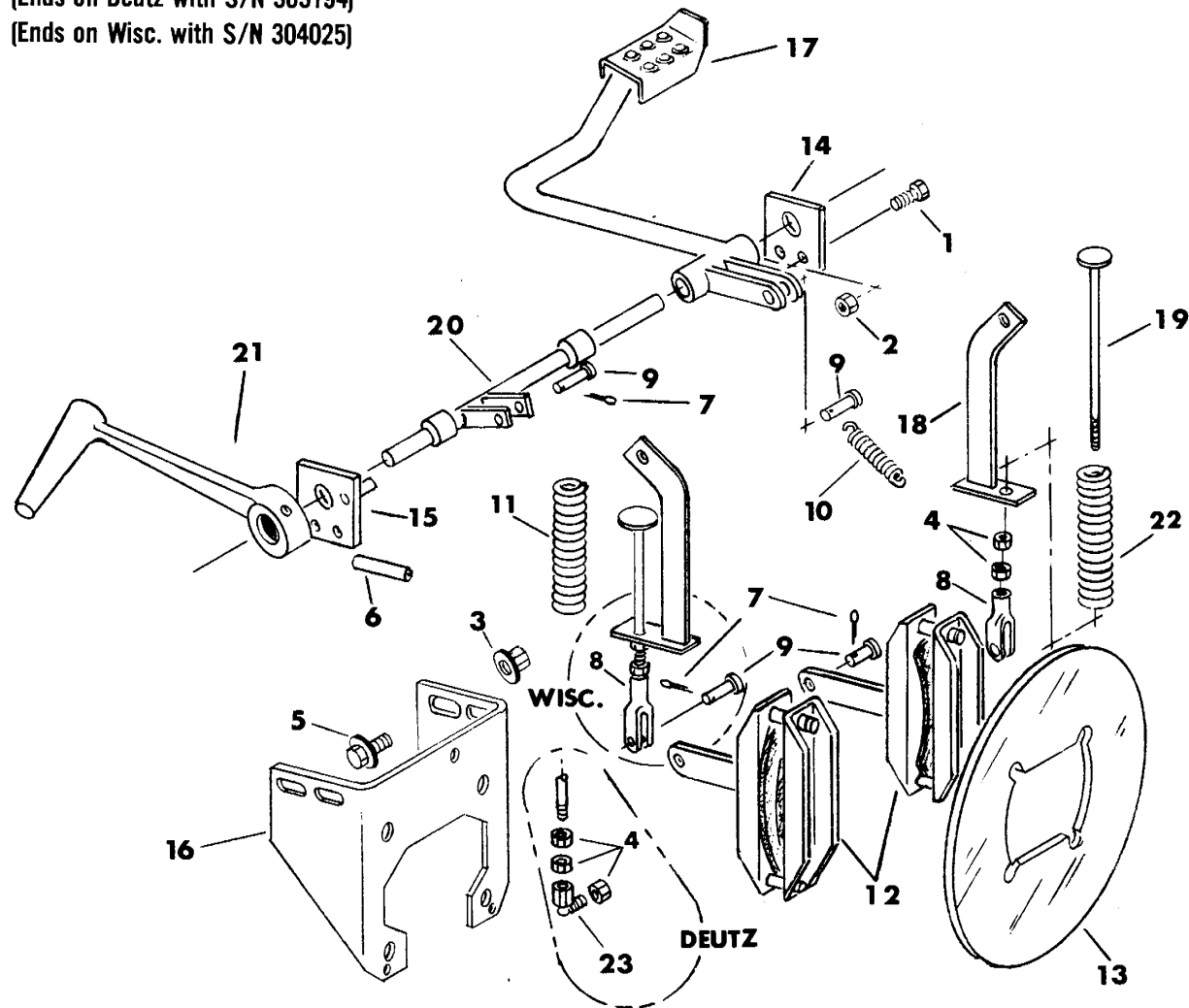
NOTE: Refer to assembly instruction 052-183.

BRAKE SYSTEM

ORGANIC PADS

(Ends on Deutz with S/N 303194)

(Ends on Wisc. with S/N 304025)



Ref. No.	Part Number	Qty.	Description
1.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
2.	105-814	4	Flange Locknut (3/8-NC)
3.	105-833	4	Flange Locknut (1/2-NC)
4.	105-093	4	Nut (3/8-NF)
5.	105-829	4	Flange Lock Bolt (1/2-NC x 1")
6.	105-503	1	Roll Pin (1/4" x 2")
7.	105-509	AR	Cotter Pin (1/8" x 1")— 2/Deutz, 3/Wisc.
8.	110-027	AR	Clevis (3/8")—1/Deutz, 2/Wisc.
9.	110-053	AR	Clevis Pin (3/Deutz, 4/Wisc.)
10.	115-593	1	Extension Spring (4" LG)
11.	115-581	1	Compression Spring (8" LG)
12.	160-762	2	⁴ Brake Caliper
13.	160-765	1	Brake Disc
14.	300-781	1	² Right Brake Shaft Mount
	300-716	1	³ Right Brake Shaft Mount

Ref. No.	Part Number	Qty.	Description
15.	300-843	1	² Left Brake Shaft Mount (Deutz & Wisc.)
	300-717	1	³ Left Brake Shaft Mount (Wisc.)
	300-718	1	³ Left Brake Shaft Mount (Deutz)
16.	360-226	1	Caliper Bracket
17.	361-436	1	Brake Pedal
18.	361-439	2	Spring Carrier
19.	361-442	2	Spring Rod
20.	361-444	1	Brake Shaft (Wisc.)
	361-748	1	Brake Shaft (Deutz)
21.	361-446	1	Parking Brake Lever
22.	115-610	1	¹ Compression Spring
23.	160-350	1	Ball Joint (Deutz)

¹If mounting a backhoe, on a machine prior to S/N 301352, this spring (yellow stripe) must be used in place of original spring.

²Early style mount brackets. Plate is 3" x 4-1/4".

³Present style mount brackets. Plate is 4-1/2" x 4-1/4".

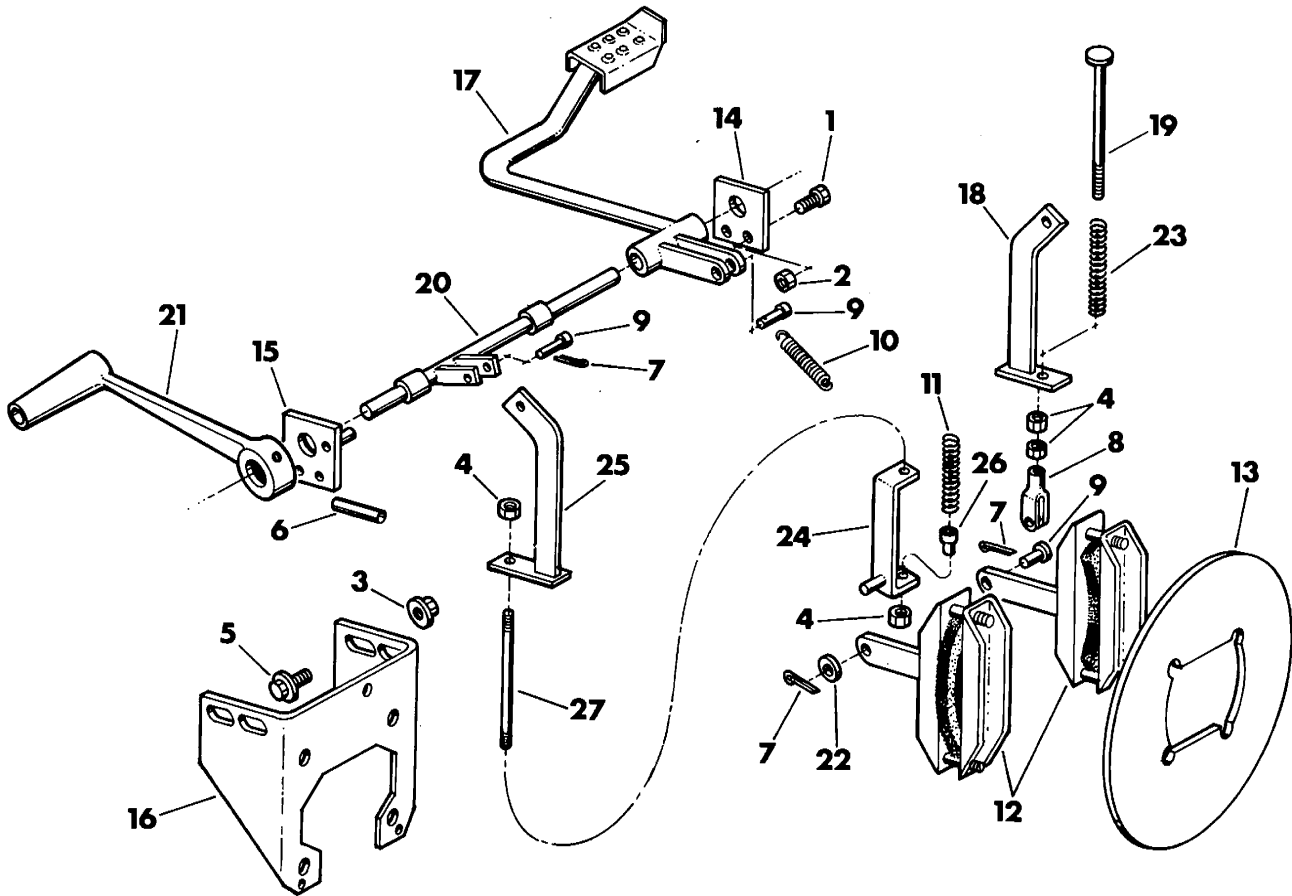
⁴If converting to brake caliper with metallic pads refer to Item 7 of Technical Bits — 5/10/84.

BRAKE SYSTEM

DEUTZ ENGINE

ORGANIC PADS

(S/N 303195 thru S/N 304025)



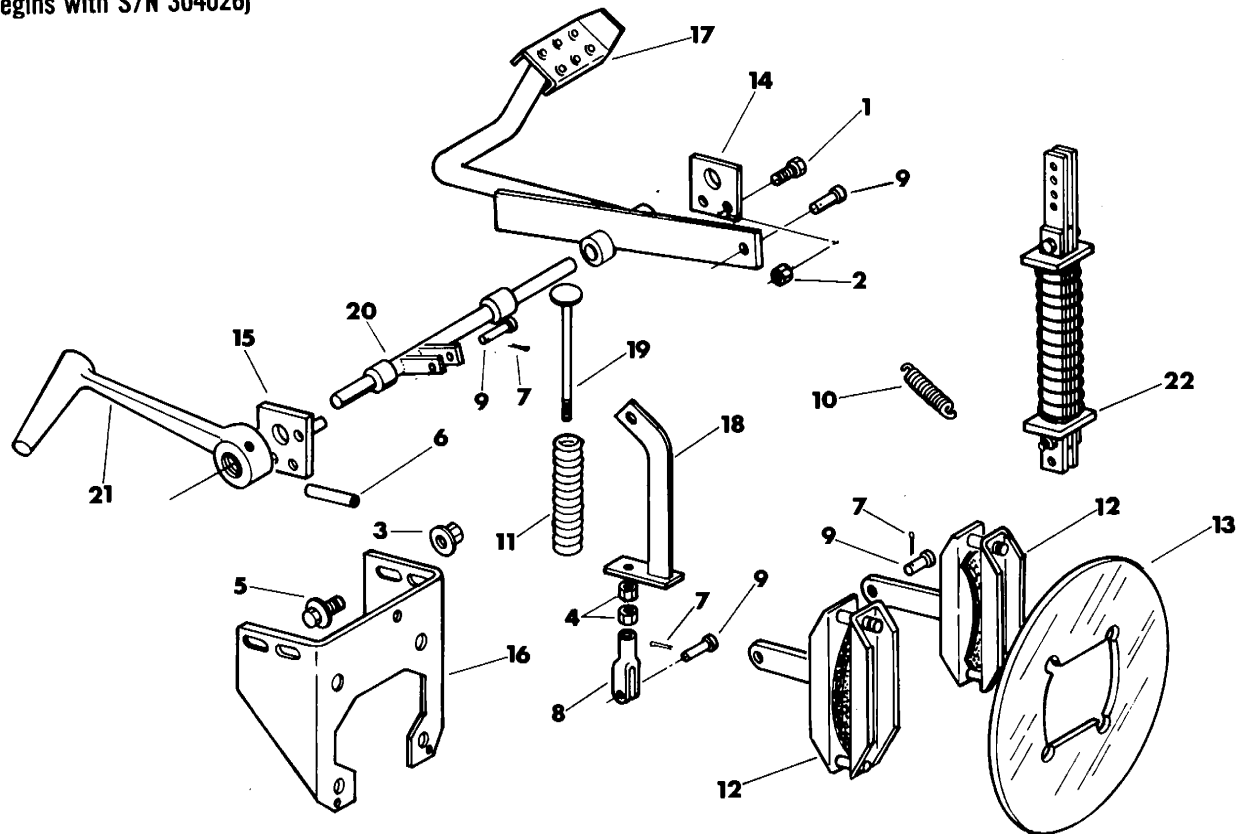
Ref. No.	Part Number	Qty.	Description
1.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
2.	105-814	4	Flange Locknut (3/8-NC)
3.	105-833	4	Flange Locknut (1/2-NC)
4.	105-093	4	Nut (3/8-NF)
5.	105-829	4	Flange Lock Bolt (1/2-NC x 1")
6.	105-503	1	Roll Pin (1/4" x 2")
7.	105-509	3	Cotter Pin (1/8" x 1")
8.	110-027	1	Clevis (3/8")
9.	110-053	3	Clevis Pin
10.	115-593	1	Extension Spring (4" LG)
11.	115-581	1	Compression Spring (8" LG)
12.	160-762	2	'Brake Caliper
13.	160-765	1	Brake Disc
14.	300-716	1	Right Brake Shaft Mount

Ref. No.	Part Number	Qty.	Description
15.	300-718	1	Left Brake Shaft Mount
16.	360-226	1	Caliper Bracket
17.	361-436	1	Brake Pedal
18.	361-439	1	Spring Carrier
19.	361-442	1	Spring Rod
20.	361-748	1	Brake Shaft
21.	361-446	1	Parking Brake Lever
22.	105-118	1	Washer (3/8")
23.	115-610	1	Compression Spring
24.	361-786	1	Spring Holder
25.	361-784	1	Spring Carrier
26.	181-679	1	Spring Bushing
27.	361-476	1	Rod

¹If converting to brake caliper with metallic pads refer to Item 7 of Technical Bits — 5/10/84.

BRAKE SYSTEM **WISCONSIN ENGINE** **METALIC PADS**

[Begins with S/N 304026]



Ref. No.	Part Number	Qty.	Description
1.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
2.	105-814	4	Flange Locknut (3/8-NC)
3.	105-833	4	Flange Locknut (1/2-NC)
4.	105-093	2	Nut (3/8-NF)
5.	105-829	4	Flange Lock Bolt (1/2-NC x 1")
6.	105-503	1	Roll Pin (1/4" x 2")
7.	105-509	3	Cotter Pin (1/8" x 1")
8.	110-027	1	Clevis (3/8")
9.	110-053	4	Clevis Pin
10.	115-601	1	Extension Spring (5/8" OD x 3" LG)
11.	115-610	1	Compression Spring (59/64" OD x 8" LG)
12.	163-035	2	Brake Caliper

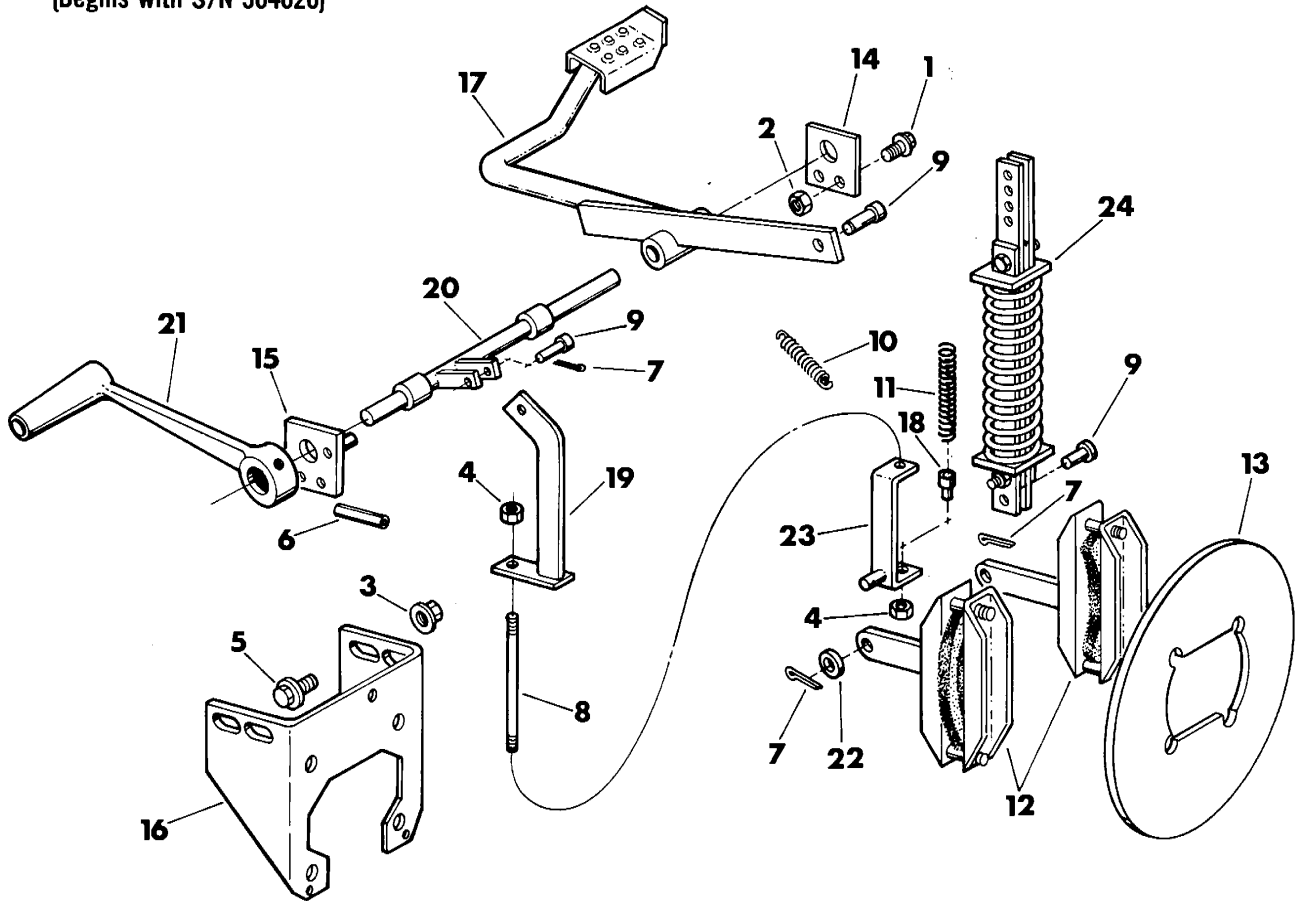
Ref. No.	Part Number	Qty.	Description
13.	160-765	1	Brake Disc
14.	300-716	1	Brake Shaft Mount
15.	300-717	1	Left Brake Shaft Mount
16.	360-226	1	Caliper Bracket
17.	361-816	1	Brake Pedal
18.	361-439	1	Spring Carrier
19.	361-442	1	Spring Rod
20.	361-444	1	Brake Shaft
21.	361-446	1	Parking Brake Lever
22.	300-953	1	Spring Carrier
	115-632		Compression Spring

BRAKE SYSTEM

DEUTZ ENGINE

METALIC PADS

(Begins with S/N 304026)



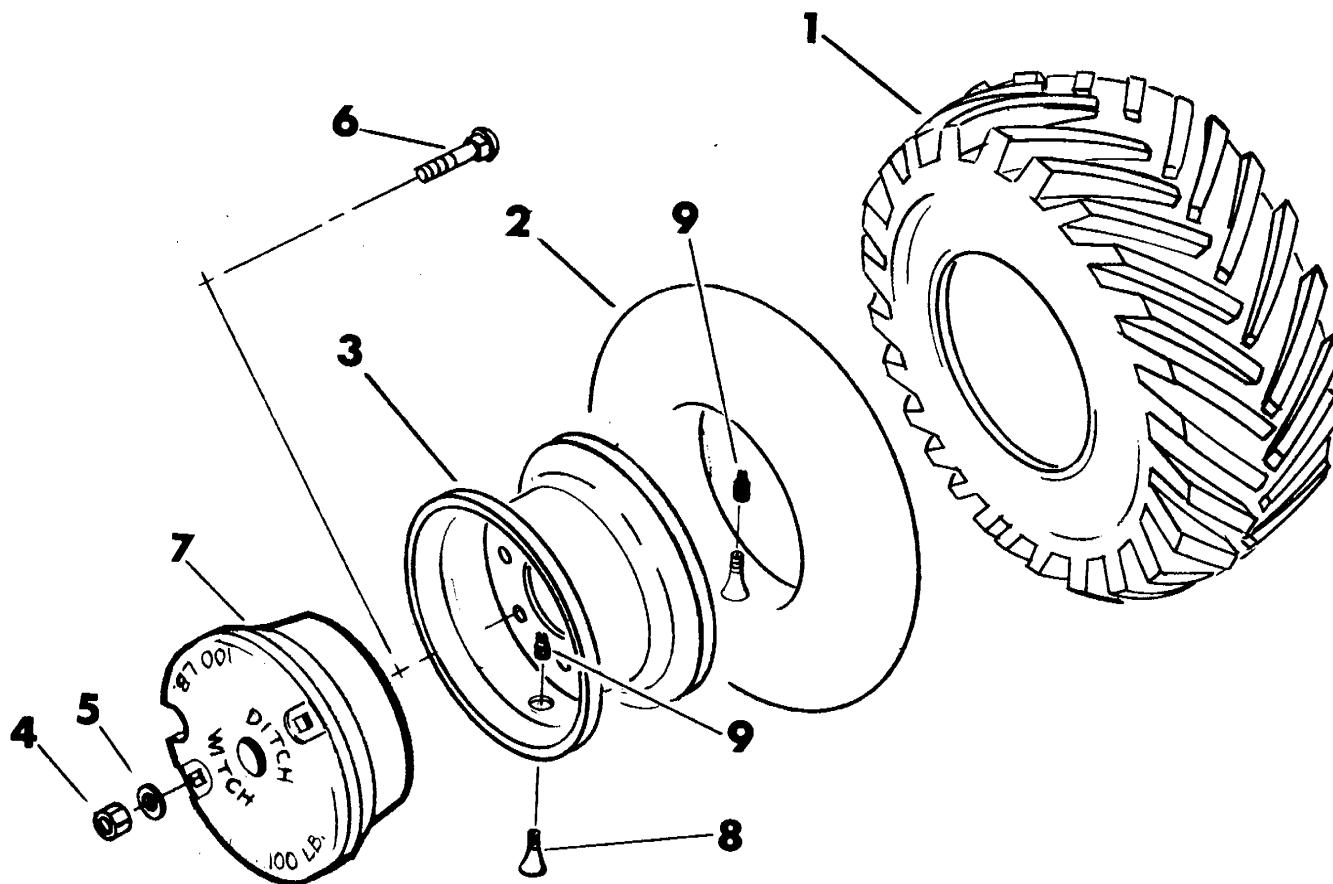
Ref. No.	Part Number	Qty.	Description
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1.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
2.	105-814	4	Flange Locknut (3/8-NC)
3.	105-833	4	Flange Locknut (1/2-NC)
4.	105-093	2	Nut (3/8-NF)
5.	105-829	4	Flange Lock Bolt (1/2-NC x 1")
6.	105-503	1	Roll Pin (1/4" x 2")
7.	105-509	3	Cotter Pin (1/8" x 1")
8.	361-476	1	Rod
9.	110-053	3	Clevis Pin
10.	115-601	1	Extension Spring (5/8" OD x 3" LG)
11.	115-610	1	Compression Spring (59/64" OD x 8" LG)
12.	163-035	2	Brake Caliper
13.	160-765	1	Brake Disc

Ref. No.	Part Number	Qty.	Description
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14.	300-716	1	Right Mount Bracket
15.	300-718	1	Left Mount Bracket
16.	360-226	1	Caliper Bracket
17.	361-816	1	Brake Pedal
18.	181-679	1	Spring Bushing
19.	361-784	1	Spring Carrier
20.	361-748	1	Brake Shaft
21.	361-446	1	Parking Brake Lever
22.	105-118	1	Washer (3/8")—early style
	105-117	1	Washer (5/16")
23.	361-786	1	Spring Holder
24.	300-953	1	Spring Carrier
	115-632		Compression Spring

TIRE—TUBE—WHEEL



Ref. No.	Part Number	Qty.	Description
	205-778		Super Terra Grip Tire & Wheel (26 x 12.0-12)—Incl. ref. no.'s 1, 3, 8 and 9
	205-821		Super Terra Grip Tire & Wheel (26 x 12.0-12)—Incl. tyrfil and ref. no.'s 1, 3, 8 and 9
	205-800		Super Terra Grip Tire & Wheel (26 x 12.0-12)—Incl. ref. no.'s 1, 2, 3, 8 and 9
1.	205-105	4	Super Terra Grip Tire (26 x 12.0—12, 4-ply)
2.	205-163	4	Tube (26 x 12 x 12)
3.	205-249	4	Wheel (10.5" WD x 12" DI)
4.	105-065	AR	Locknut (1/2-NC)—2/wheel weight

Ref. No.	Part Number	Qty.	Description
5.	105-071	AR	Washer (1/2")—2/wheel weight
6.	105-112	AR	Carriage Bolt (1/2-NC x 8")—2/wheel weight
7.	375-097	AR	1 Wheel Weight
8.	205-164	4	Valve Stem (Incl. ref. no. 9)
9.	205-165	4	Valve Cap

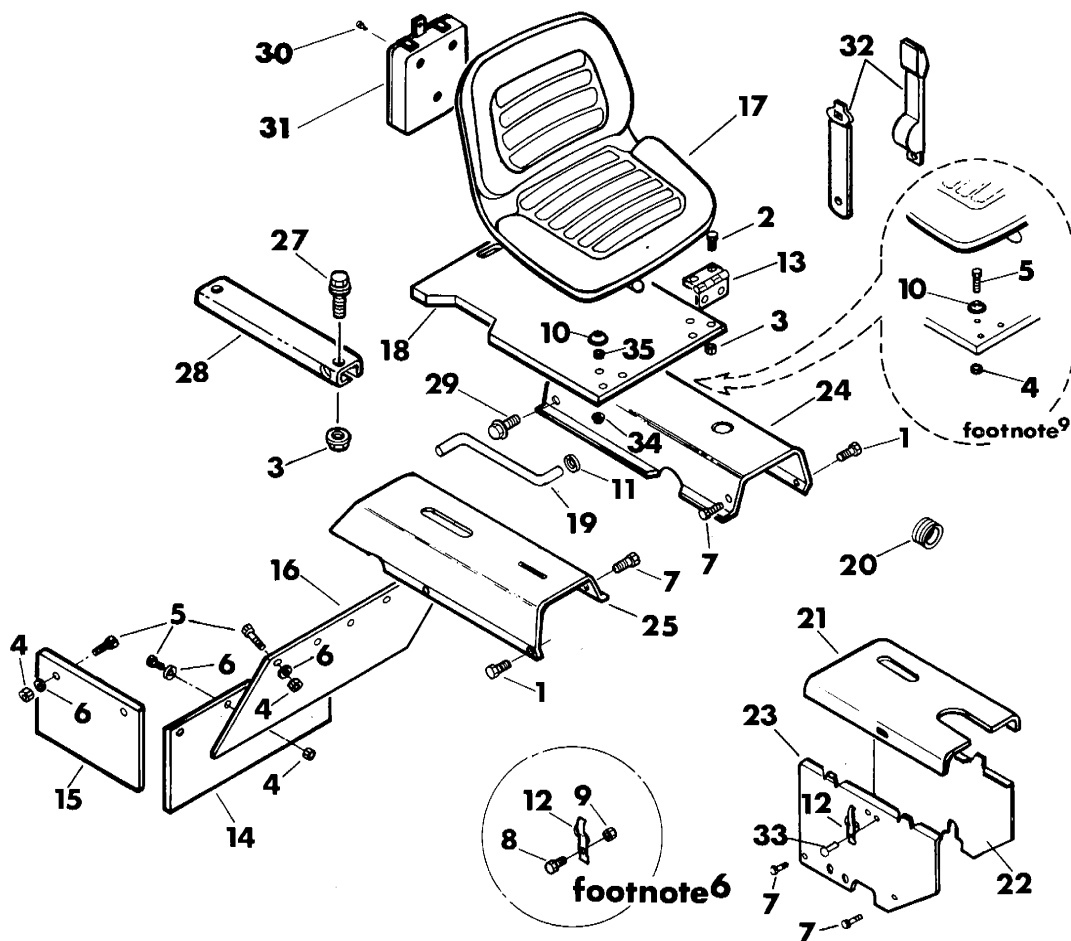
Not Shown:

205-173 AR Tyrfil (112 LBS/tire)

*Wheel weights are used only with flotation wheels.

NOTE: Refer to general specification 052-195 for tire pressures.

SEAT and COVERS

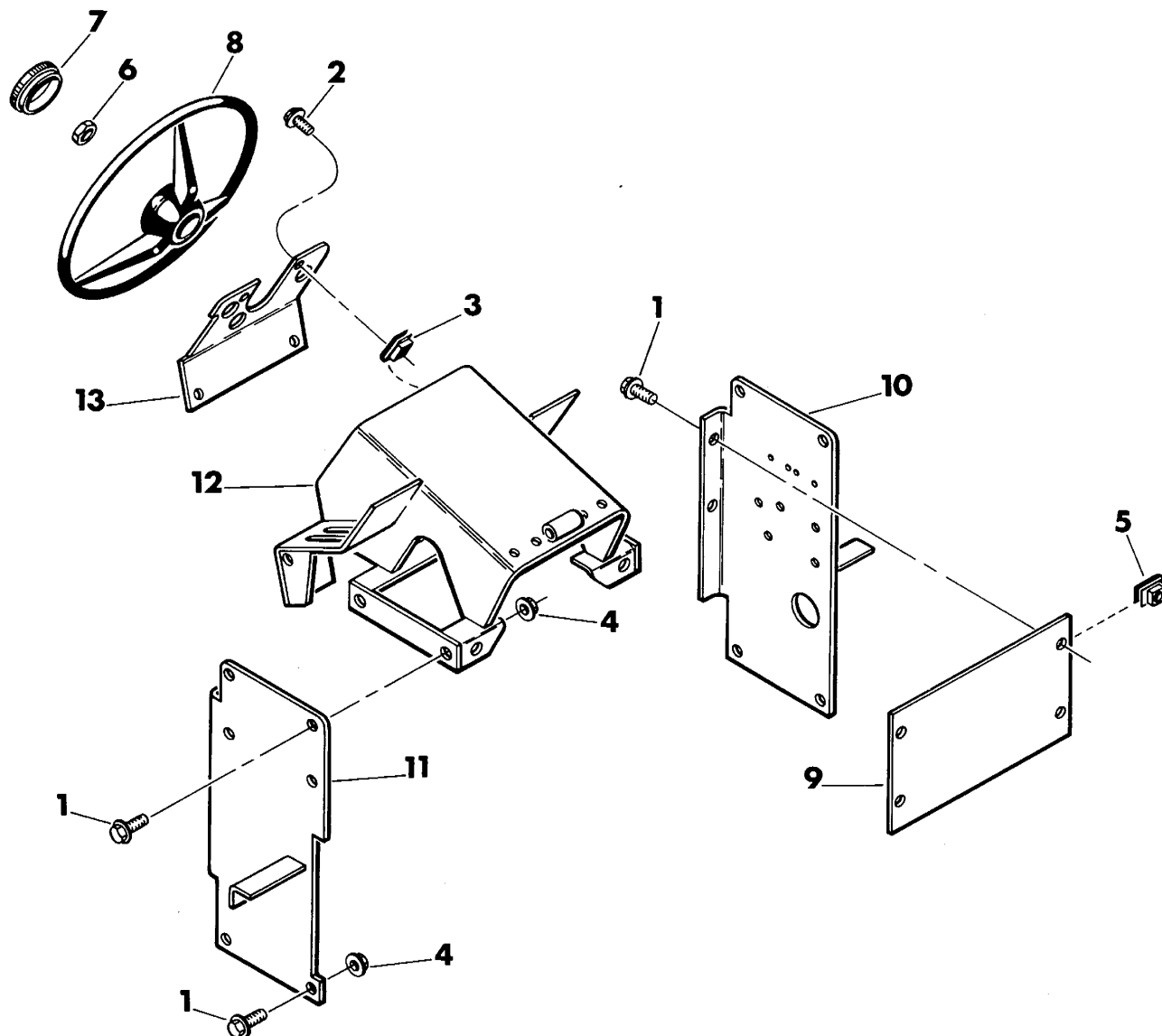


Ref. No.	Part Number	Qty.	Description
1.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
2.	105-820	8	Flange Lock Bolt (1/4-NC x 3/4", GD 8)
3.	105-832	10	Flange Locknut (1/4-NC)
4.	105-089	11	Locknut (5/16-NC)
5.	105-094	11	Bolt (5/16-NC x 1")
6.	105-117	11	Washer (5/16")
7.	105-822	6	Flange Lock Bolt (5/16-NC x 1/2")
8.	105-185	7	⁶ Bolt (No. 10-24 x 1/2", RD SLT HD)
9.	105-186	7	⁶ Nut (No. 10-24)
10.	105-267	4	Cup Washer (5/16")
11.	115-477	1	External Grip Ring
12.	110-014	2	Hood Latch
13.	110-043	2	Hinge
14.	115-303	1	Spoils Flap (6" x 21")
15.	115-304	1	Spoils Flap (6" x 13")
16.	115-339	1	Spoils Flap (12" x 27")
17.	115-418	1	⁹ Seat Assembly
	115-421	1	¹⁰ Seat Assembly
18.	300-789	1	⁵ Seat Panel
19.	300-832	1	Prop Bar
20.	115-320	1	Grommet (offset pivot)
21.	362-116	1	Transmission Cover
22.	362-119	1	³ Left Transmission Side Panel
	362-379	1	⁴ Left Transmission Side Panel
23.	362-120	1	³ Right Transmission Side Panel
	362-380	1	⁴ Right Transmission Side Panel
24.	362-117	1	¹ Left Fender Panel
	362-175	1	² Left Fender Panel

Ref. No.	Part Number	Qty.	Description
25.	362-118	1	¹ Right Fender Panel
	362-176	1	² Right Fender Panel
26.	105-832	2	⁵ Flange Locknut (1/4-NC)
27.	105-836	2	⁵ Flange Lock Bolt (1/4-NC x 1/2")
28.	300-787	1	⁵ Rod Guide
29.	105-830	2	Flange Lock Bolt (1/2-NC x 1-1/4")
30.	110-253	3	Pop Rivet
31.	250-622	1	Manual Compartment
32.	110-122	1	⁸ Seat Belt
	110-272	1	⁸ Seat Belt (replacements)
33.	110-253	7	⁷ Pop Rivet (3/16" x 1/2")
34.	105-003	4	¹⁰ Flange Locknut (5/16-NC)
35.	105-092	4	¹⁰ Nut (5/16-NC)

¹Ends with S/N 300205. Replacement fenders accept R.O.P.S.
²Begins with S/N 300206. Replacement fenders accept R.O.P.S.
³Ends with S/N 303194 on Wisconsin models.
⁴Begins with S/N 303195 on Deutz and Wisconsin models.
⁵When replacing seat deck, which has welded rod guide, order seat deck, rod guide and hardware (ref. no.'s 18 & 26 thru 28).
⁶Bolt and nut were used on early style and may be used to replace pop rivets.
⁷Pop rivets are used on present production units.
⁸Replacement seat belt replaces all earlier styles.
⁹Parts associated with early style seats, which did not have provision for operator presence safety switch. See footnote 10.
¹⁰Parts associated with present style seats, which have provision for operator presence safety switch and have mounting studs.

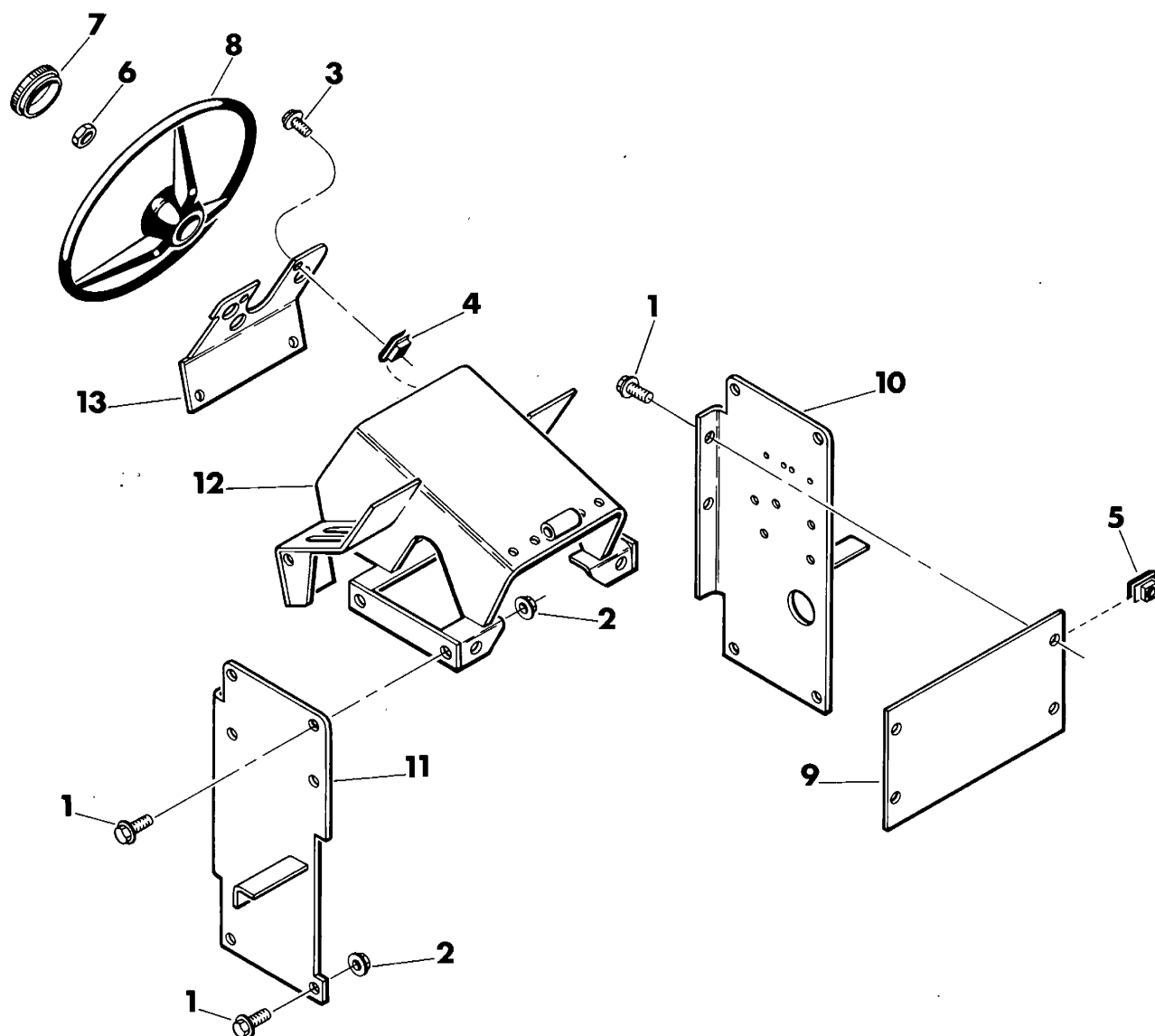
CONSOLE DEUTZ ENGINE



Ref. No.	Part Number	Qty.	Description
1.	105-826	16	Flange Lock Bolt (3/8-NC x 1")
2.	105-090	8	Bolt (5/16-NC x 3/4")
3.	105-137	6	Clip Nut (5/16-NC)
4.	105-233	8	Clip Nut (3/8-NC, 1/2" LG)—early style
	105-834	8	Flange Locknut (3/8-NC)
5.	105-260	8	Clip Nut (3/8-NC, 1" LG)
6.	105-361	1	Jam Nut (13/16-NEF)
7.	160-323	1	Steering Wheel Cap

Ref. No.	Part Number	Qty.	Description
8.	160-338	1	Steering Wheel
9.	300-951	1	Lower Console Panel
10.	300-791	1	Left Side Panel
11.	300-876	1	Right Side Panel
12.	300-796	1	Control Panel
	300-727	1	Control Panel (Telecom)
13.	300-932	1	Instrument Panel

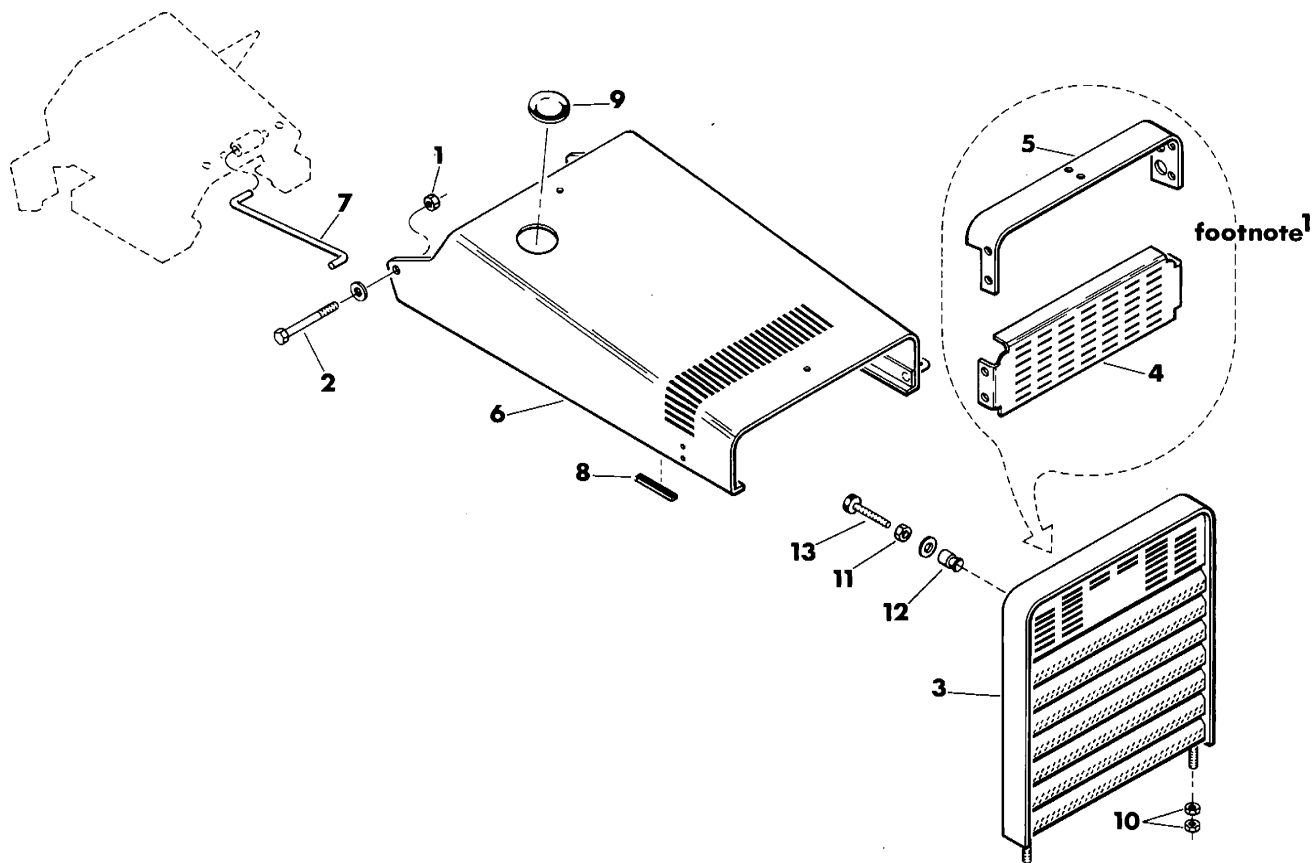
CONSOLE WISCONSIN ENGINE



Ref. No.	Part Number	Qty.	Description
1.	105-826	20	Flange Bolt (3/8-NC x 3/4")
2.	105-834	16	Flange Locknut (3/8-NC)
3.	105-090	4	Bolt (5/16-NC x 3/4")
4.	105-137	4	Clip Nut (5/16-NC)
5.	105-260	4	Clip Nut (3/8-NC, 1" LG)
6.	105-361	1	Jam Nut (3/16-NEF)
7.	160-323	1	Steering Wheel Cap

Ref. No.	Part Number	Qty.	Description
8.	160-338	1	Steering Wheel
9.	300-790	1	Lower Panel
10.	300-791	1	Left Side Panel
11.	300-876	1	Right Side Panel
12.	300-796	1	Control Panel
13.	~~300-806~~	1	Instrument Panel (service indicator)
	300-847	1	Instrument Panel (hour meter)

HOOD and GRILLE DEUTZ ENGINE



Ref. No.	Part Number	Qty.	Description
1.	105-089	4	Locknut (5/16-NC)
2.	105-266	2	Bolt (5/16-NC x 5-1/2")
3.	362-369	1	² Grille
	362-506	1	³ Grille
4.	321-833	1	¹ Grille (used w/A220)
5.	321-835	1	¹ Grille Mount (used w/A220)
6.	300-930	1	² Hood
	310-060	1	³ Hood
7.	300-832	1	Prop Bar
8.	115-671	AR	Grommet Edging (use 3")

Ref. No.	Part Number	Qty.	Description
9.	110-434	1	Plug
10.	105-053	4	³ Nut (3/8-NC)
11.	105-092	2	³ Nut (5/16-NC)
12.	106-038	2	³ Nutsert (5/16-NC)
13.	110-044	2	³ Bumper (5/16-NC)

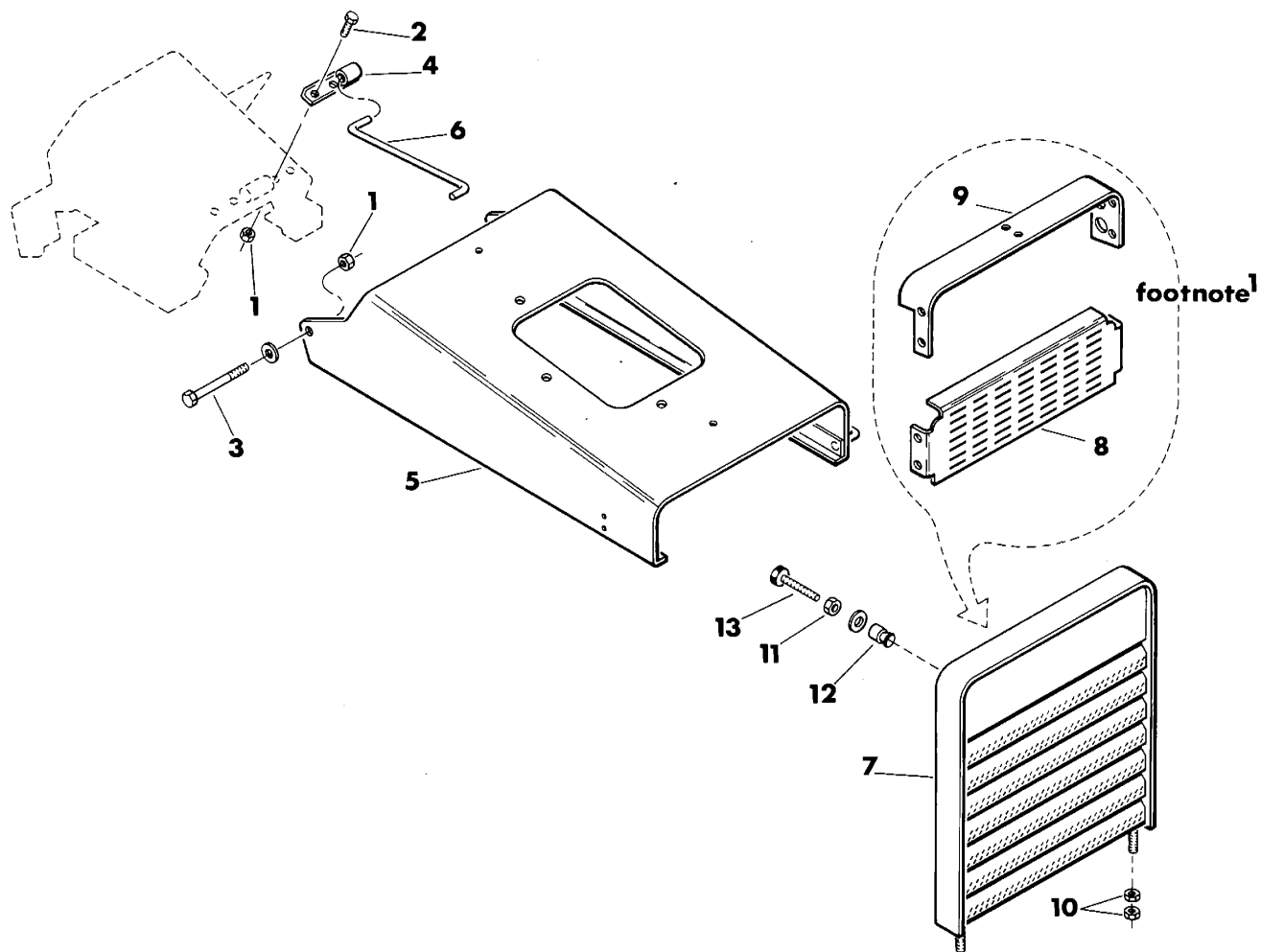
¹This grille and grille mount are used when 2300 is equipped with an A220. Refer to installation diagram 050-162 for procedures involved in mounting backhoe.

²Ends with S/N 3D0515.

³Begins with S/N 3D0516.

HOOD and GRILLE WISCONSIN ENGINE

<https://truckmanualshub.com/>



Ref. No.	Part Number	Qty.	Description
1.	105-089	2	Locknut (5/16-NC)
2.	105-090	2	Bolt (5/16-NC x 3/4")
3.	105-266	2	Bolt (5/16-NC x 5-1/2")
4.	300-879	1	Hood Support Mount
5.	300-881	1	² Hood
	310-062	1	³ Hood
6.	300-832	1	Prop Bar
7.	362-150	1	² Grille
	362-497	1	³ Grille
8.	321-833	1	¹ Grille (used w/A220)

Ref. No.	Part Number	Qty.	Description
9.	321-835	1	¹ Grille Mount (used w/A220)
10.	105-053	4	³ Nut (3/8-NC)
11.	105-092	2	³ Nut (5/16-NC)
12.	106-038	2	³ Nutsert (5/16-NC)
13.	110-044	2	³ Bumper (5/16-NC)

¹This grille and grille mount are used when 2300 is equipped with an A220. Refer to installation diagram 050-103 for procedures involved in mounting backhoe.

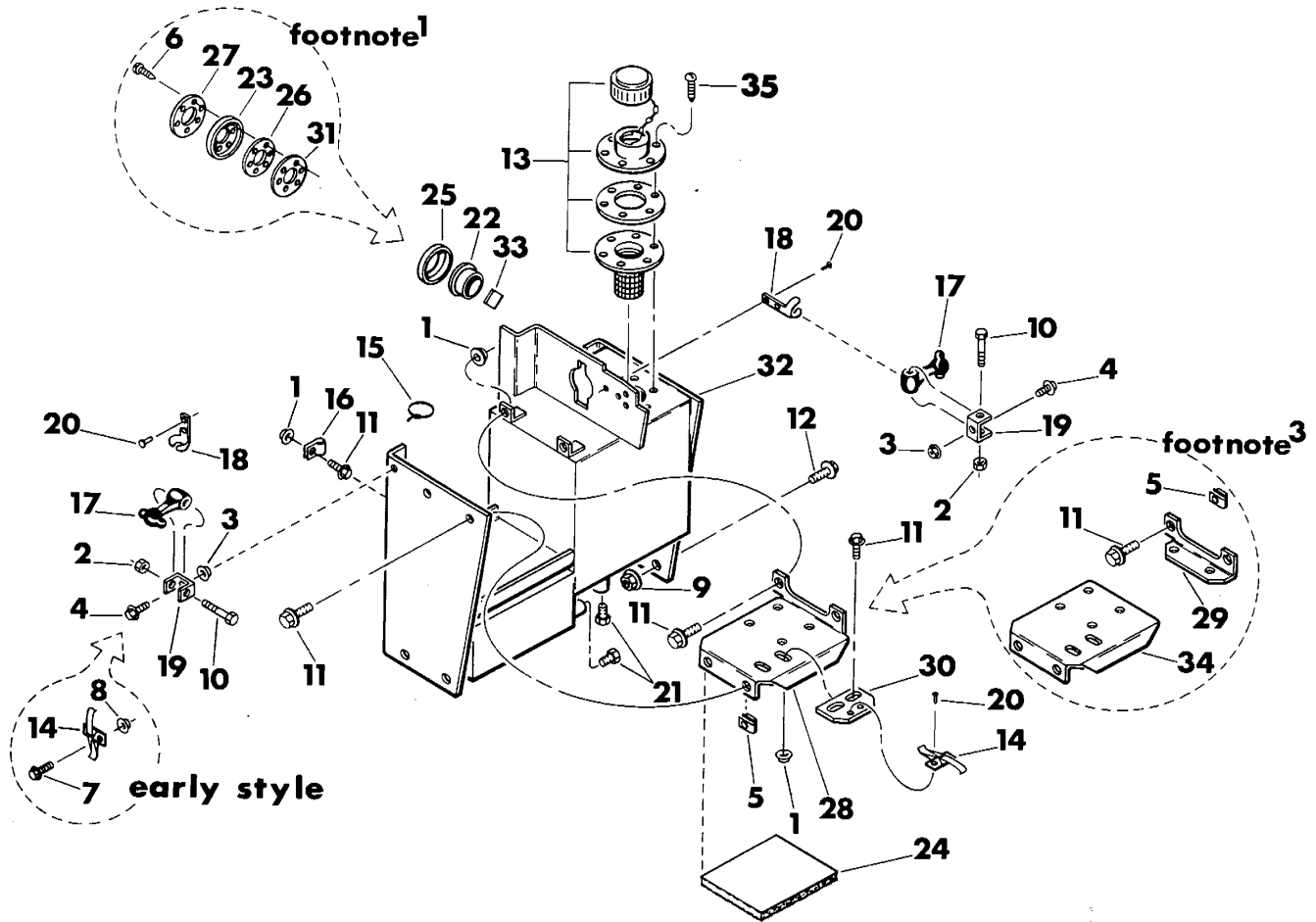
²Ends with S/N 3D0495.

³Begins with S/N 3D0496.

HYDRAULIC RESERVOIR

DEUTZ ENGINE

(Ends with S/N 3D0515)



Ref. No.	Part Number	Qty.	Description
1.	105-003	5	Flange Locknut (5/16-NC)
2.	105-085	2	Locknut (1/4-NC)
3.	105-089	2	Locknut (5/16-NC)
4.	105-090	4	Bolt (5/16-NC x 3/4")
5.	105-137	2	Clip Nut (5/16-NC)
6.	105-184	6	¹ Screw (No. 10-24 x 3/4")
7.	105-185	4	¹ Bolt (No. 10-24 x 1/2")
8.	105-186	4	¹ Nut (No. 10-24)
9.	105-834	4	Flange Locknut (3/8-NC)
10.	105-818	2	Bolt (1/4-NC x 1-1/2")
11.	105-823	6	Flange Lock Bolt (5/16-NC x 3/4")
12.	105-826	4	Flange Lock Bolt (3/8-NC x 1")
13.	110-008	1	⁵ Filler Breather Assembly
	165-626		Gasket
14.	110-014	2	Latch (early models)
15.	110-030	1	Cable Tie
16.	110-126	2	Wire Clamp
17.	110-222	2	Hood Latch
18.	110-223	2	Latch Bracket
19.	110-224	2	Anchor Bracket
20.	110-253	4	Pop Rivet

Ref. No.	Part Number	Qty.	Description
21.	115-158	1	Pipe Plug (3/8-NPT M)
22.	115-320	1	² Grommet
23.	115-691	1	¹ Oil Level Window
24.	116-202	1	Battery Pad
25.	116-218	1	² Sight Glass
26.	165-626	1	¹ Gasket
27.	165-668	1	¹ Gasket
28.	300-936	1	⁴ Air Filter Base Plate
29.	~~300-937~~	1	³ Base Plate Angle
30.	300-960	1	Latch Adjuster (not on early styles)
31.	304-275	1	¹ Reinforcing Ring
32.	360-831	1	Hydraulic Tank
33.	360-849	1	² Reflector
34.	N.A.	1	³ Base Plate
35.	105-214	6	⁵ Screw (No. 10-24 x 1/2")

¹Ends with S/N 304177.

²Begins with S/N 304178.

³Early style plate angle and base plate (ref. no.'s 29 and 34) are replaced by single piece base plate (ref. no. 28).

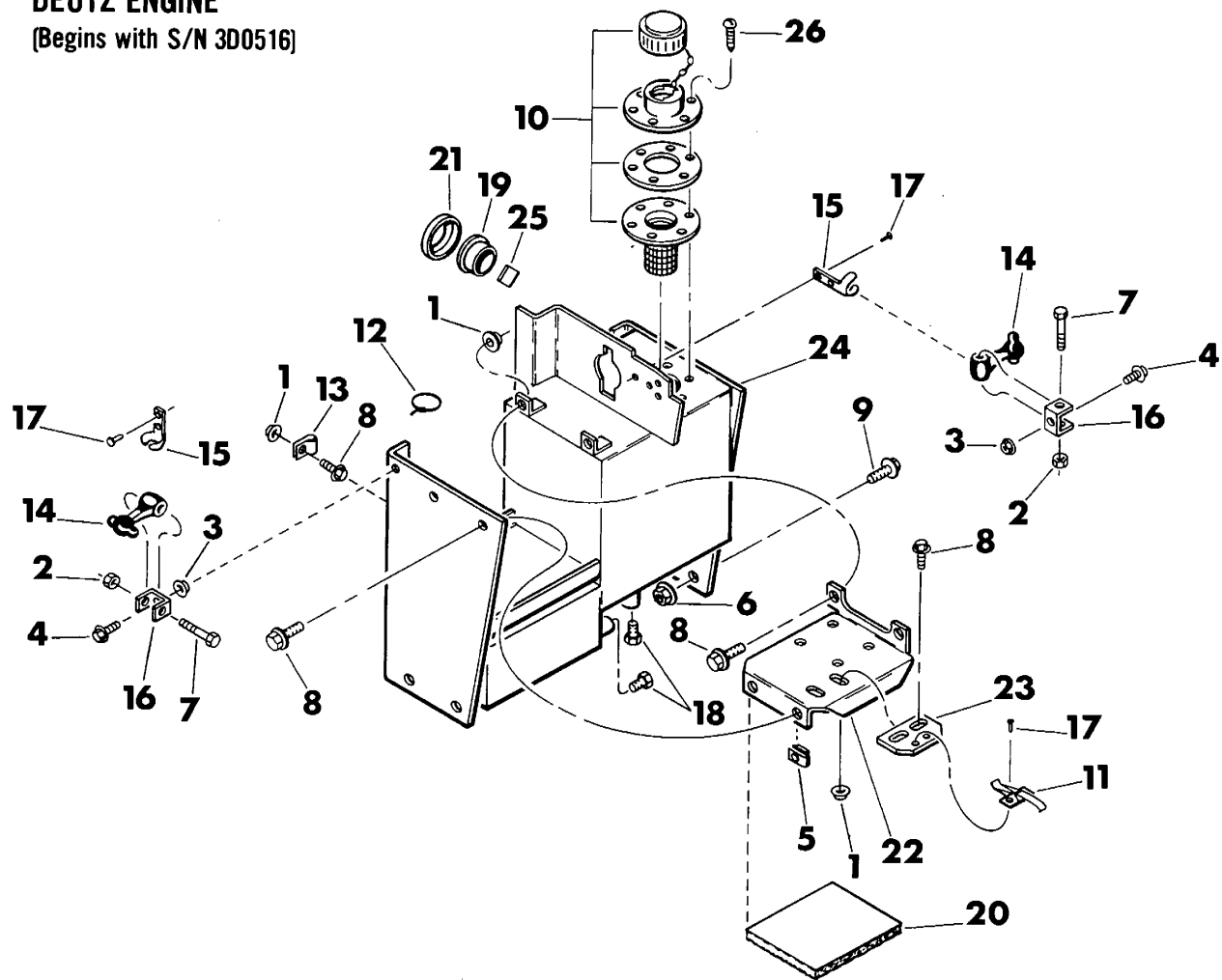
⁴Present style base plate (ref. no. 28) may be used to replace early style plate angle and base plate.

⁵Screws received with filler breather (ref. no. 13) should be discarded and screws (ref. no. 35) used in their place.

HYDRAULIC RESERVOIR

DEUTZ ENGINE

(Begins with S/N 3D0516)



Ref. No.	Part Number	Qty.	Description
1.	105-003	5	Flange Locknut (5/16-NC)
2.	105-085	2	Locknut (1/4-NC)
3.	105-089	2	Locknut (5/16-NC)
4.	105-090	4	Bolt (5/16-NC x 3/4")
5.	105-137	2	Clip Nut (5/16-NC)
6.	105-834	4	Flange Locknut (3/8-NC)
7.	105-818	2	Bolt (1/4-NC x 1-1/2")
8.	105-823	6	Flange Lock Bolt (5/16-NC x 3/4")
9.	105-826	4	Flange Lock Bolt (3/8-NC x 1")
10.	110-008	1	Filler Breather Assembly
	165-626		Gasket
11.	110-014	1	Latch
12.	110-030	1	Cable Tie
13.	110-126	2	Wire Clamp

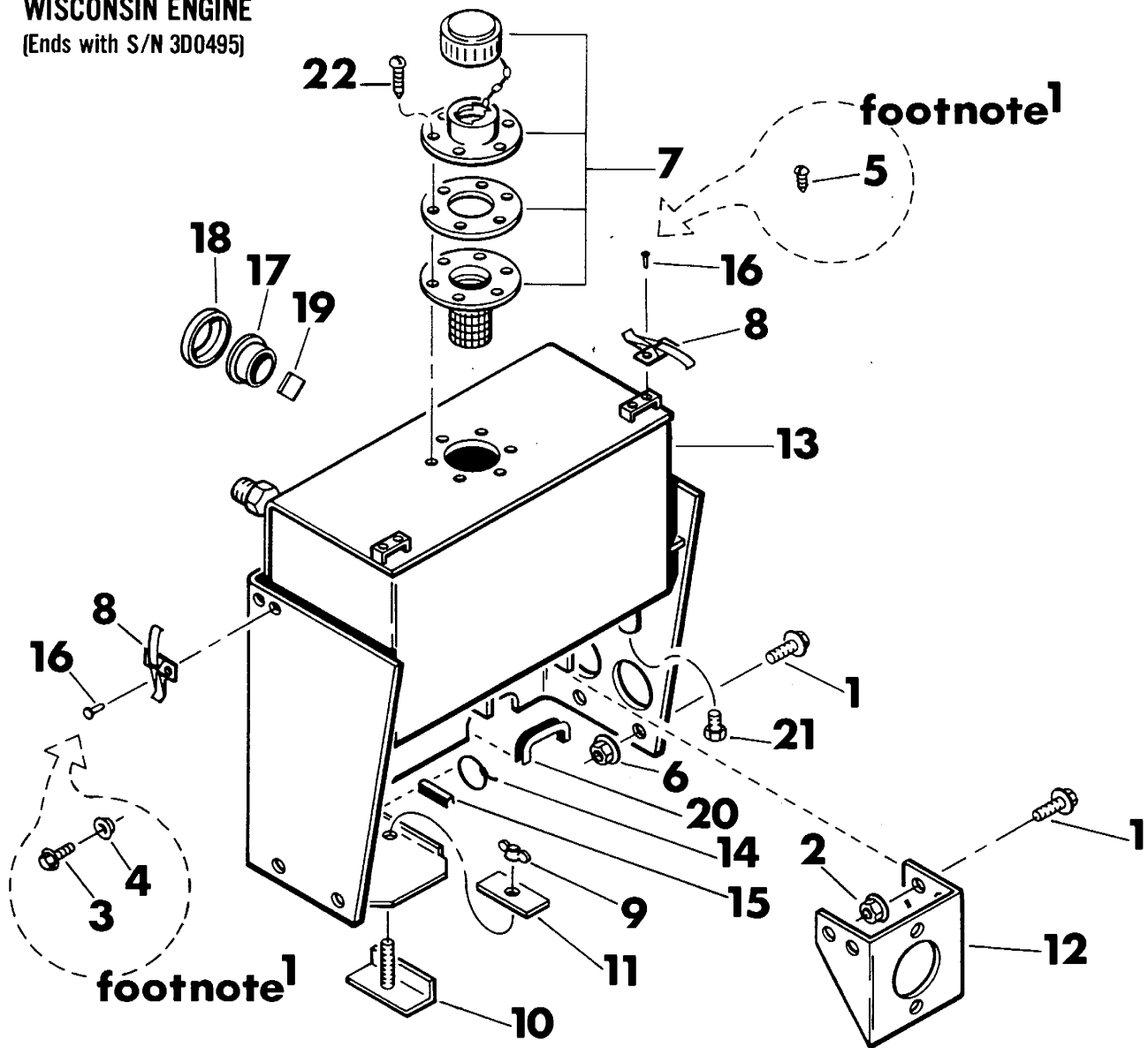
Ref. No.	Part Number	Qty.	Description
14.	110-222	2	Hood Latch
15.	110-223	2	Latch Bracket
16.	110-224	2	Anchor Bracket
17.	110-253	4	Pop Rivet
18.	115-158	1	Pipe Plug (3/8-NPT M)
19.	115-320	1	Grommet
20.	116-202	1	Battery Pad
21.	116-218	1	Sight Glass
22.	300-936	1	Air Filter Base Plate
23.	300-971	1	Latch Adjuster
24.	360-831	1	Hydraulic Tank
25.	360-849	1	Reflector
26.	105-214	6	'Screw (No. 10-24 x 1/2")

'Screws received with filler breather (ref. no. 10) should be discarded and screws (ref. no. 26) used in their place.

HYDRAULIC RESERVOIR

WISCONSIN ENGINE

(Ends with S/N 3D0495)



Ref. No.	Part Number	Qty.	Description
1.	105-826	8	Flange Lock Bolt (3/8-NC x 1")
2.	105-834	4	Flange Locknut (3/8-NC)
3.	105-185	4	¹ Bolt (No. 10-24 x 1/2", RD SLT HD)
4.	105-186	4	¹ Nut (No. 10-24)
5.	105-214	4	¹ Screw (No. 10-24 x 1/2")
6.	105-233	4	Clip Nut (3/8-NC, 1/2" LG)
7.	110-008	1	³ Filler Breather Assembly
	165-626		Gasket
8.	110-014	4	Latch
9.	195-339	1	Wing Nut (1/4-NC)
10.	300-838	1	Lower Retainer Bracket (lower)
11.	<u>300-840</u>	1	Upper Retainer Bracket (bracket)
12.	360-230	1	Pump Bracket

Ref. No.	Part Number	Qty.	Description
13.	360-749	1	Hydraulic Reservoir
14.	110-030	1	Plastic Tie (for battery cable)
15.	115-686	1	Edge Grommet (use 3")
16.	110-253	8	² Pop Rivet
17.	115-320	1	Grommet
18.	116-218	1	Sight Glass
19.	360-849	1	Reflector
20.	115-686	1	Grommet Edging (use 5")
21.	115-158	1	Pipe Plug (3/8-NPT M)
22.	105-214	6	³ Screw (No. 10-24 x 1/2")

¹Early style hardware. See footnote 2.

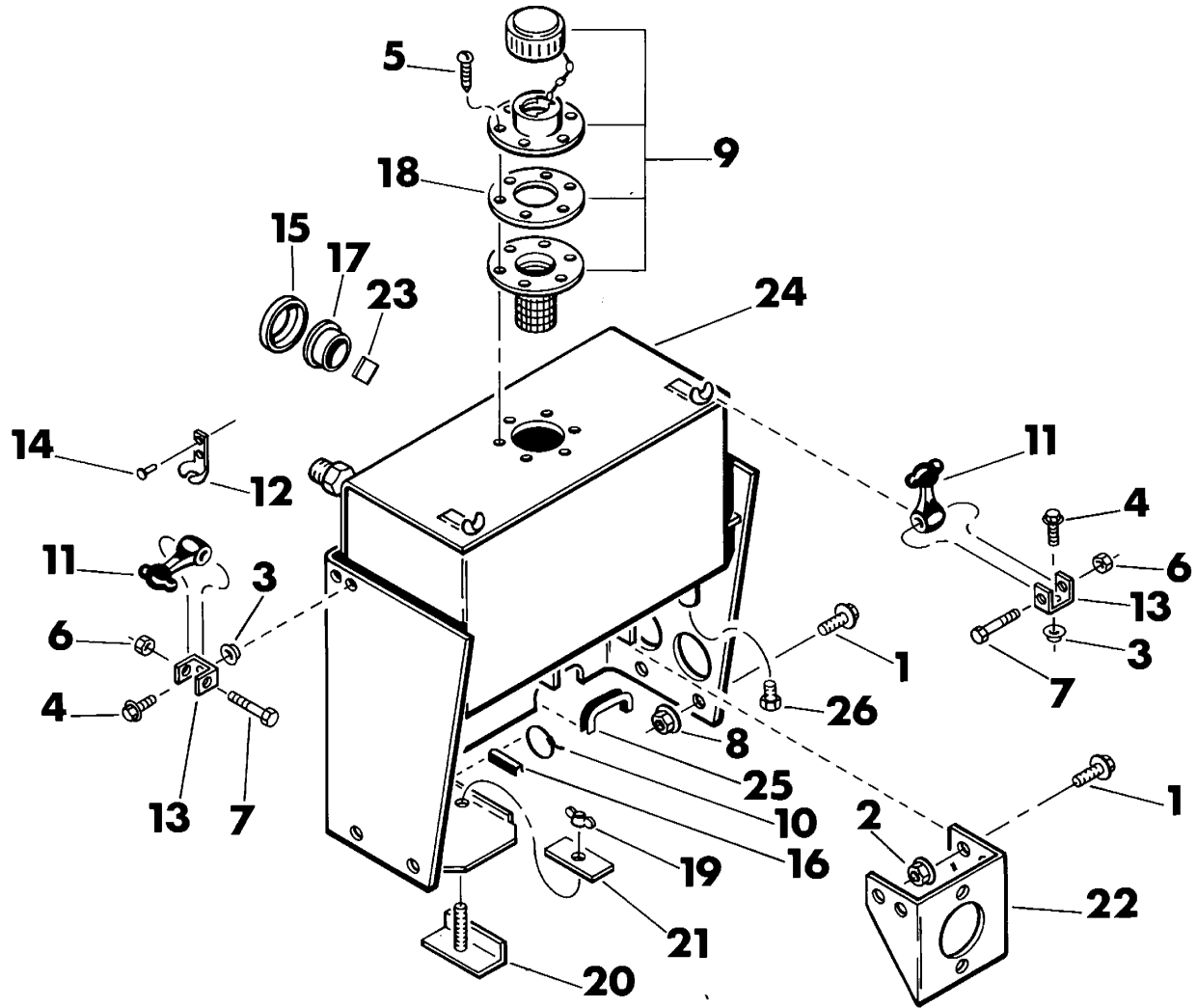
²Present production uses pop rivet.

³Screws received with filler breather (ref. no. 7) should be discarded and screws (ref. no. 22) used in their place.

HYDRAULIC RESERVOIR

WISCONSIN ENGINE

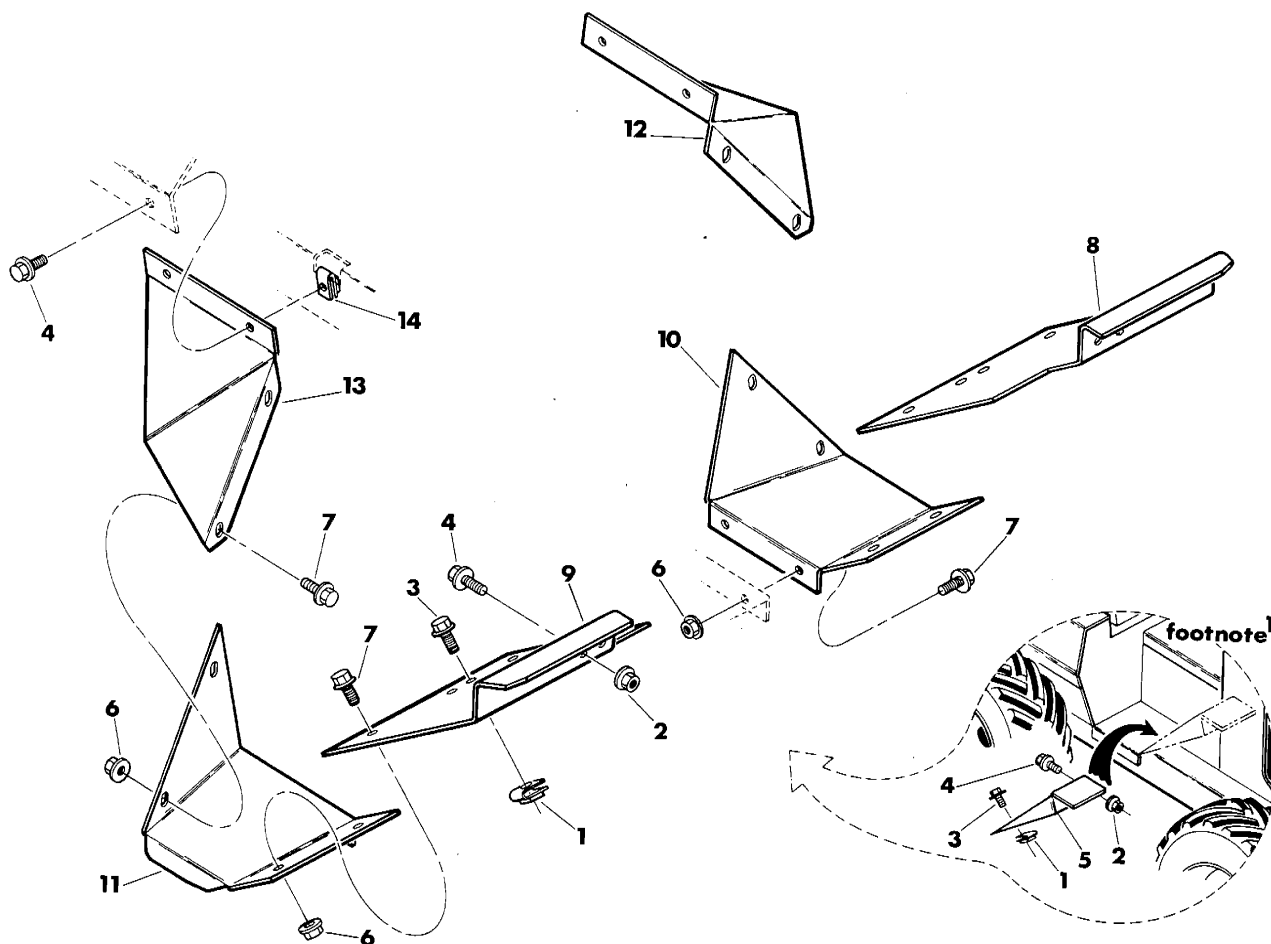
(Begins with S/N 3D0496)



Ref. No.	Part Number	Qty.	Description
1.	105-826	8	Flange Bolt (3/8-NC x 3/4")
2.	105-834	4	Flange Locknut (3/8-NC)
3.	105-089	8	Locknut (5/16-NC)
4.	105-090	10	Bolt (5/16-NC x 3/4")
5.	105-214	6	Flange Screw (No.10-24 x 1/2")
6.	105-085	4	Locknut (1/4-NC)
7.	105-818	4	Bolt (1/4-NC x 1-1/2")
8.	105-233	8	Clip Nut (3/8-NC, 1-1/2" LG)
	105-834	8	Flange Locknut (3/8-NC)
9.	110-008	1	Filler Breather Assembly
10.	110-030	1	Plastic Tie (for battery cable)
11.	110-222	4	Hood Latch
12.	110-223	2	Hood Latch Bracket
13.	110-224	4	Anchor Bracket

Ref. No.	Part Number	Qty.	Description
14.	110-253	4	Pop Rivet
15.	115-320	1	Grommet
16.	115-686	1	Edge Grommet (use 3")
17.	116-218	1	Sight Glass
18.	165-626		Gasket
19.	195-339	1	Wing Nut (1/4-NC)
20.	300-838	1	Lower Battery Bracket
21.	320-008	1	Upper Battery Bracket
22.	360-230	1	Pump Bracket
23.	360-849	1	Reflector
24.	364-002	1	Hydraulic Reservoir
25.	115-686	1	Edge Grommet (use 5")
26.	115-158	1	Pipe Plug (3/8-NPT M)

FRAME STEPS



Ref. No.	Part Number	Qty.	Description
1.	105-137	4	Clip Nut (5/16-NC)
2.	105-814	4	Flange Locknut (3/8-NC)
3.	105-823	4	Flange Lock Bolt (5/16-NC x 3/4")
4.	105-825	4	Flange Lock Bolt (3/8-NC x 3/4")
5.	300-807	1	¹ Left Fender
	300-808	1	¹ Right Fender
6.	105-003	12	Flange Locknut (5/16-NC)
7.	105-823	12	Flange Lock Bolt (5/16-NC x 3/4")
8.	300-938	1	² Left Front Fender
	300-962	1	³ Left Front Fender
9.	300-939	1	² Right Front Fender
	300-963	1	³ Right Front Fender
10.	300-940	1	² Left Step Extension
	300-964	1	³ Left Step Extension

Ref. No.	Part Number	Qty.	Description
11.	300-941	1	² Right Step Extension
	300-965	1	³ Right Step Extension
12.	300-966	1	³ Left Fender Extension
13.	300-967	1	³ Right Fender Extension
14.	105-260	4	Clip Nut (3/8-NC)

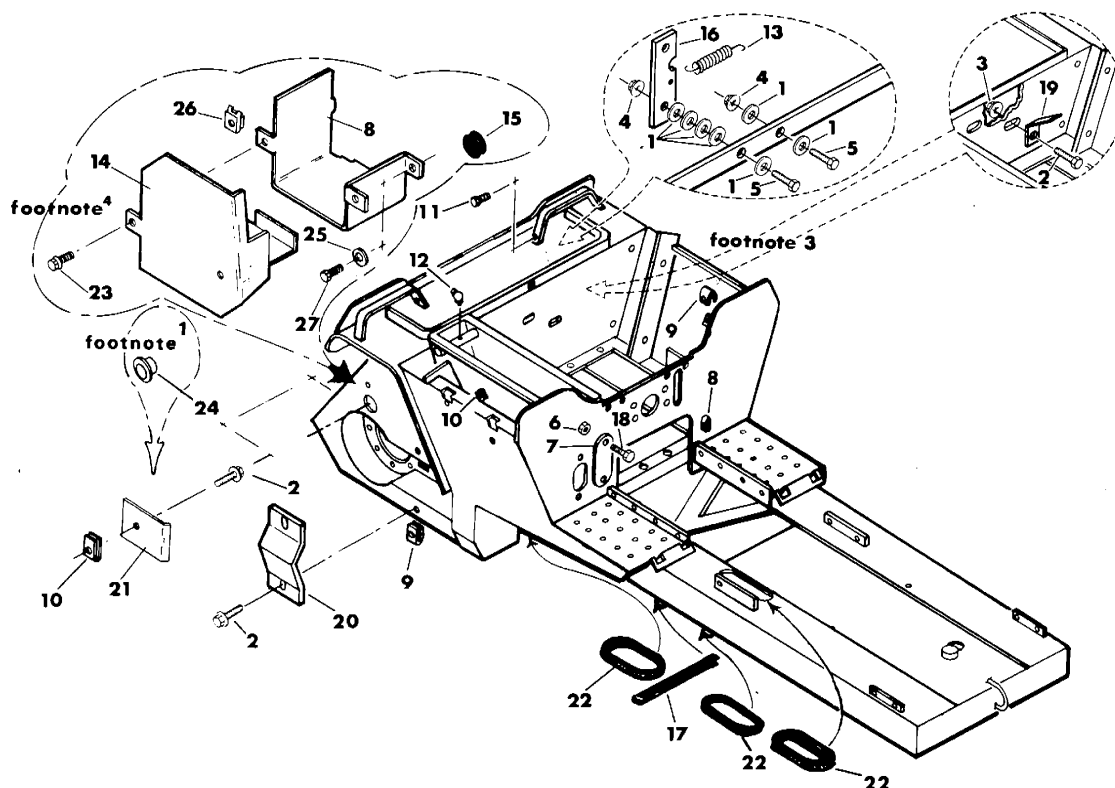
¹Single piece fender (ref. no. 5) is replaced by fender, step extension and fender extension (ref. no.'s 8 thru 13). See footnote 4.

²Ends with S/N 380799. These machines were originally equipped with fender and step extension (two piece) arrangement (ref. no.'s 8 thru 11). DO NOT USE ITEMS DENOTED WITH FOOTNOTE 2 FOR REPLACEMENT. If replacement is required install three piece arrangement consisting of fender, step extension and fender extensions, denoted by footnote 3 (ref. no.'s 8 thru 13). See footnote 4.

³Begins with S/N 380800. These machines are equipped with (3 piece) arrangement consisting of fender, step extension and fender extension (ref. no.'s 8 thru 13). This arrangement is necessary for installation of foot throttle. See footnote 4.

⁴Refer to installation diagram 050-166 for installation of three piece fender arrangement. Refer to Item 1 of Technical Bits dated 1-9-86 for information on installing foot throttle.

FRAME PARTS



Ref. No.	Part Number	Qty.	Description
1.	105-117	AR	Washer (5/16")
2.	105-826	3	Flange Lock Bolt (3/8-NC x 1")
3.	105-814	1	³ Flange Locknut (3/8-NC)
4.	105-089	2	Locknut (5/16-NC)
5.	105-094	12	Bolt (5/16-NC x 1")
6.	105-841	2	Clip Nut (5/16-NC)
7.	362-276	1	Slot Cover
8.	~~300-908~~	1	⁴ Battery Box
9.	105-233	4	Clip Nut (3/8-NC, 1/2" LG)
10.	105-260	5	Clip Nut (3/8-NC, 1" LG)
11.	105-121	2	Bolt (1/2-NC x 1")
12.	115-005	1	Zerk (1/4-NF x 90°)
13.	115-556	1	Extension Spring
14.	~~300-905~~	1	⁴ Battery Box Cover
15.	115-355	1	⁴ Rubber Grommet
16.	300-834	1	Deck Latch

Ref. No.	Part Number	Qty.	Description
17.	115-686	1	Grommet Edging (use 5-1/2")
18.	501-325	2	Flange Lock Bolt (5/16-NC x 5/8")
19.	~~300-836~~	1	Belt Retainer Bracket
20.	300-837	1	Pinion Guard
21.	362-157	1	² Cover
22.	115-662	3	Grommet Edging
23.	105-823	2	⁴ Flange Lock Bolt (5/16-NC x 3/4")
24.	110-110	1	¹ Plastic Plug
25.	105-095	3	⁴ Washer (1/4")
26.	105-137	2	⁴ Clip Nut (5/16-NC)
27.	105-231	3	⁴ Screw (1/4-NC x 3/4")

¹Ends with S/N 300070.

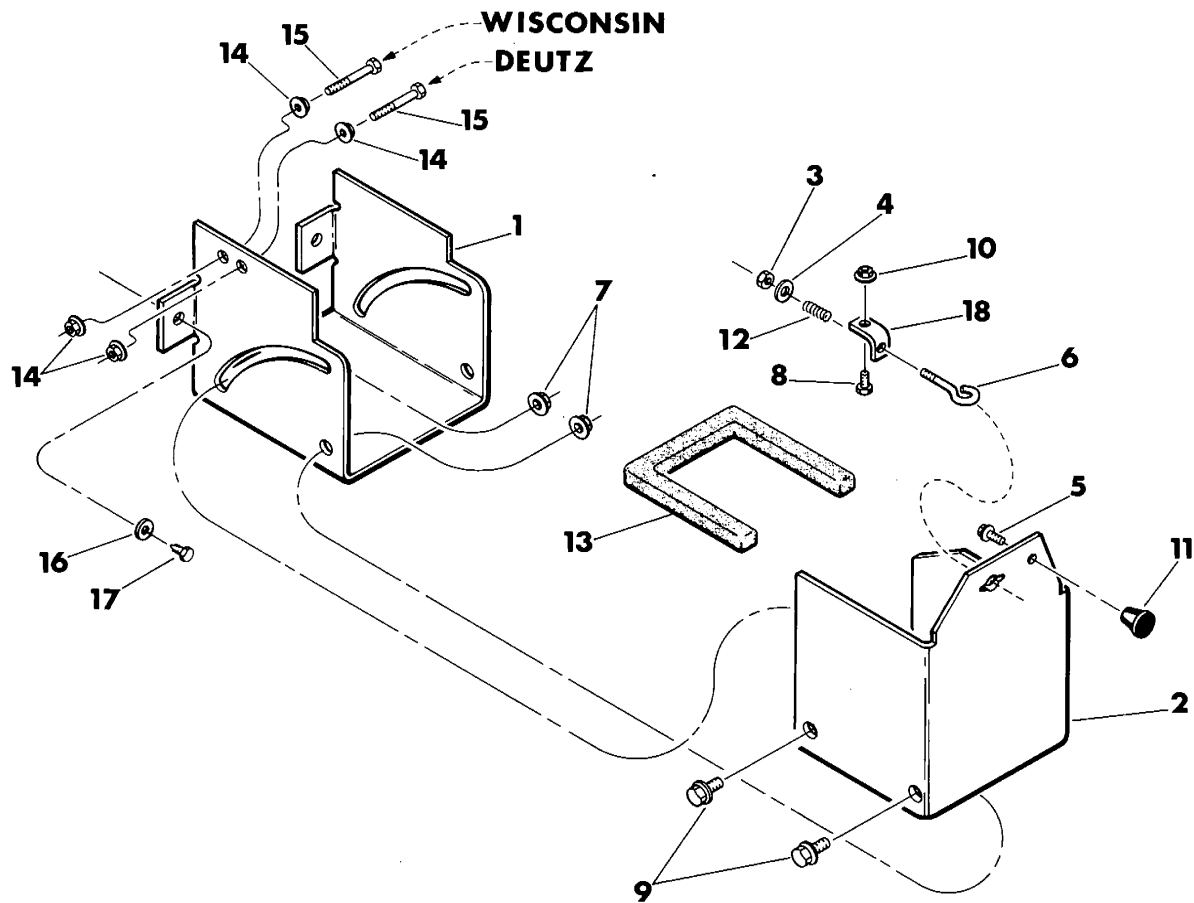
²Begins with S/N 300071.

³Ends with S/N 300205.

⁴These parts were used on machines equipped with an A220. These parts are no longer available if replacement is required order parts from page entitled BATTERY BOX — (Present Production).

BATTERY BOX

[Present Production]

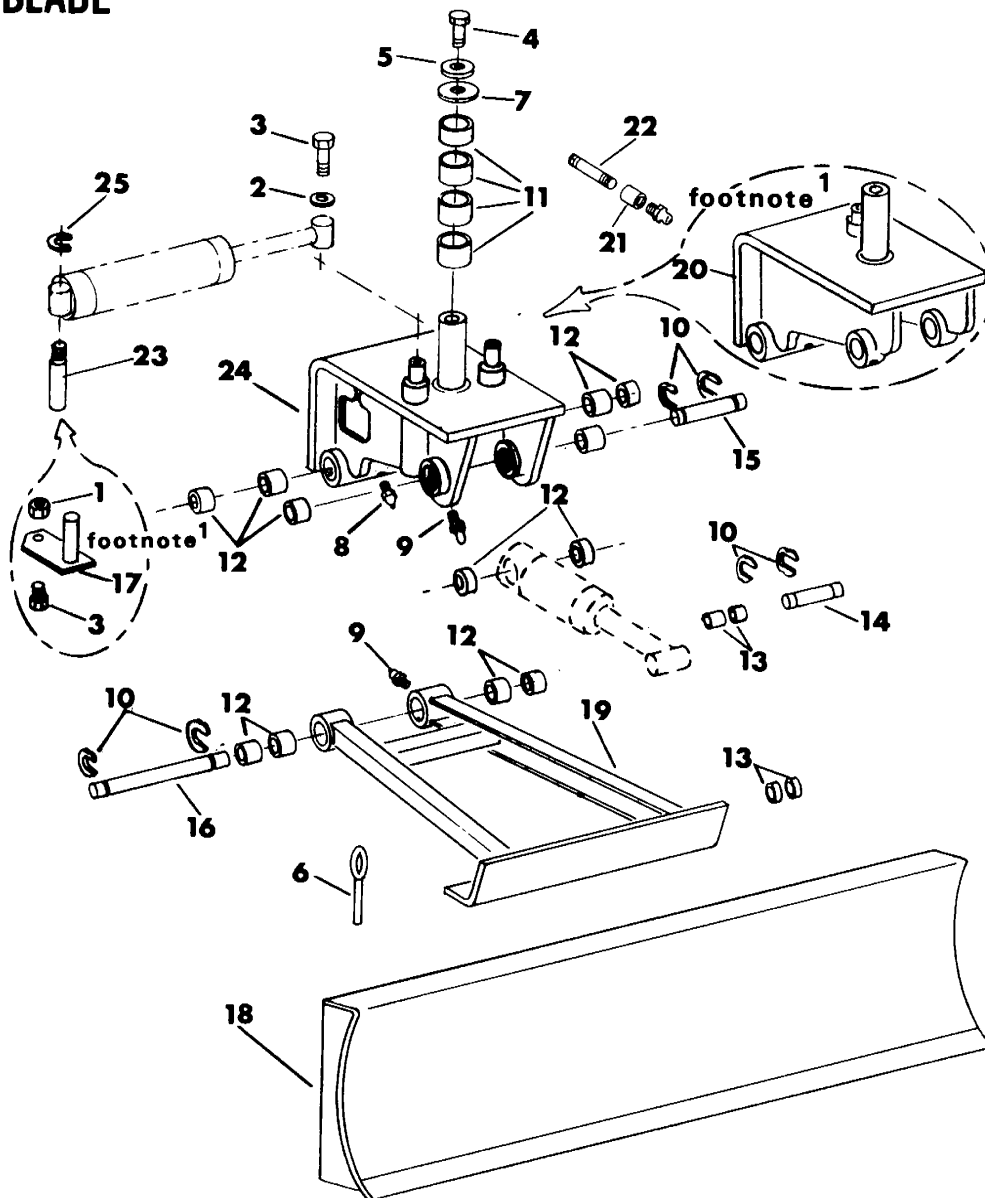


Ref. No.	Part Number	Qty.	Description
1.	310-072	1	Battery Box
2.	310-073	1	Battery Box Cover
3.	105-089	1	Locknut (5/16-NC)
4.	105-117	AR	Washer (5/16")
5.	105-836	1	Flange Lock Bolt (1/4-NC x 1/2")
6.	105-257	1	Eye Bolt (5/16-NC x 2")
7.	105-814	4	Flange Locknut (3/8-NC)
8.	105-825	1	Flange Lock Bolt (3/8-NC x 3/4")
9.	105-826	4	Flange Lock Bolt (3/8-NC x 1")
10.	105-845	1	Flange Locknut (3/8-NC)
11.	110-071	1	Knob (1/4-NC)

Ref. No.	Part Number	Qty.	Description
12.	115-577	1	Compression Spring (1/2" OD x 1" LG)
13.	116-107	1	Weather Stripping (1" x 1-1/4")—use 24"
14.	105-003	2	Flange Locknut (5/16-NC)
15.	105-130	1	Bolt (5/16-NC x 2-1/4")
16.	105-095	3	Washer (1/4")
17.	105-231	3	Screw (1/4-NC x 3/4")
18.	360-002	1	Tab

*These parts were used on machines equipped with an A220. For procedures involved when mounting an A220 refer to installation diagram 050-103 for Wisconsin or 050-162 for Deutz.

BACKFILL BLADE

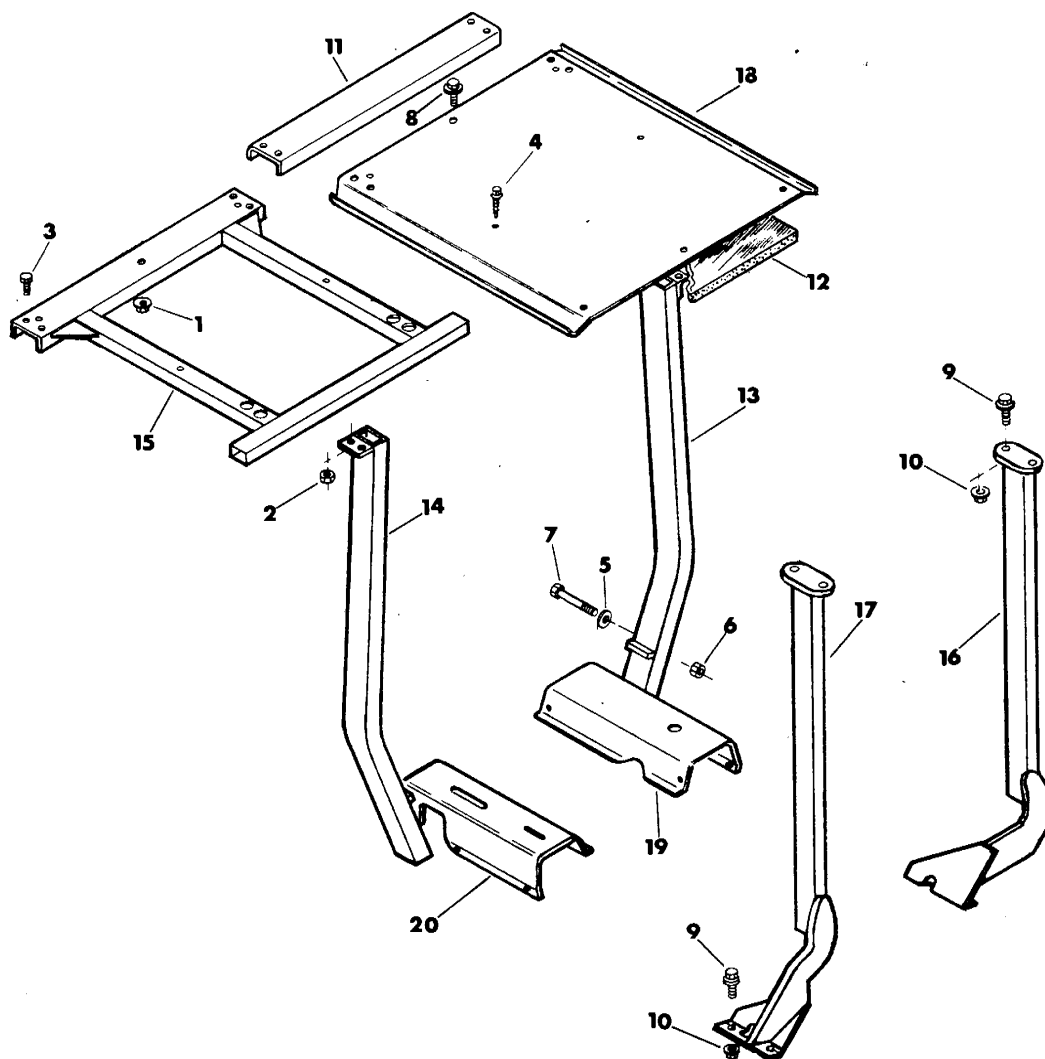


Ref. No.	Part Number	Qty.	Description
1.	105-065	1	Locknut (1/2-NC)
2.	105-071	2	Washer (1/2")
3.	105-121	2	Bolt (1/2-NC x 1")
4.	105-392	1	Bolt (3/4-NF x 1-1/4")—use loctite
5.	105-423	1	Washer
6.	110-034	1	Eye Pin
7.	115-702	1	Urethane Washer
8.	115-001	2	Zerk (1/8-NPT, STR)
9.	115-003	4	Zerk (1/4-NF, STR)
10.	115-483	6	External Clip Ring
11.	125-419	4	Clevite Bushing (1-1/2" OD x 1" LG)
12.	125-713	12	Clevite Bushing (1-7/8" OD x 1" LG)
13.	125-714	4	Clevite Bushing (1-1/2" OD x 3/4" LG)
14.	183-139	1	Rod Pin

Ref. No.	Part Number	Qty.	Description
15.	183-140	1	Barrel Pin
16.	183-141	1	Lift Pivot Pin
17.	183-143	1	Cylinder Mount Pin Assembly
18.	300-159	1	Backfill Blade
19.	300-818	1	Backfill Arm
20.	300-901	1	Backfill Pivot
21.	115-172	1	Pipe Collar (1/8")
22.	115-188	1	Pipe Nipple (1/8" x 4-1/4")
23.	183-228	1	Cylinder Pin
24.	300-892	1	Backfill Pivot
25.	115-503	2	External Clip Ring

¹Ends with S/N 300741. Used with single blade angle cylinder.

²Begins with S/N 300742. Used with double blade angle cylinder.



Ref. No.	Part Number	Qty.	Description
	190-370		³ 4-Post R.O.P.S. Kit (Incl. ref. no.'s 1, 4, 8, 9, 10, 12 and 15 thru 18)
	190-339		⁴ 2-Post R.O.P.S. Kit (Incl. ref. no.'s 2, 3, 5, 6, 7, 11, 13, 14, 19, 20 and 21)
1.	105-003	1	Flange Locknut (5/16-NC)
2.	105-065	4	Locknut (1/2-NC)
3.	105-121	4	Bolt (1/2-NC x 1")
4.	105-221	7	Screw (No. 14-10 x 1-1/2")
5.	105-439	3	Washer (7/8")
6.	105-478	4	Locknut (7/8-NC)
7.	105-482	4	Bolt (7/8-NC x 6", GD 8)
8.	105-823	1	Flange Lock Bolt (5/16-NC x 3/4")
9.	105-830	8	Flange Lock Bolt (1/2-NC x 1-1/4")
10.	105-833	8	Flange Locknut (1/2-NC)
11.	306-115	1	Top Channel (for 2-Post R.O.P.S.)

Ref. No.	Part Number	Qty.	Description
12.	116-183	1	Headliner Insulation
13.	306-110	1	Left Rear Panel
14.	306-111	1	Right Rear Panel
15.	306-176	1	Top Frame
16.	306-181	1	Left Front Post (for 4-Post R.O.P.S.)
17.	306-182	1	Right Front Post (for 4-Post R.O.P.S.)
18.	306-190	1	Top Cover (for 4-Post R.O.P.S.)
19.	362-117	1	¹ Left R.O.P.S. Fender
	362-175	1	² Left R.O.P.S. Fender
20.	362-118	1	¹ Right R.O.P.S. Fender
	362-176	1	² Right R.O.P.S. Fender

¹Ends with S/N 300205.

²Begins with S/N 302206.

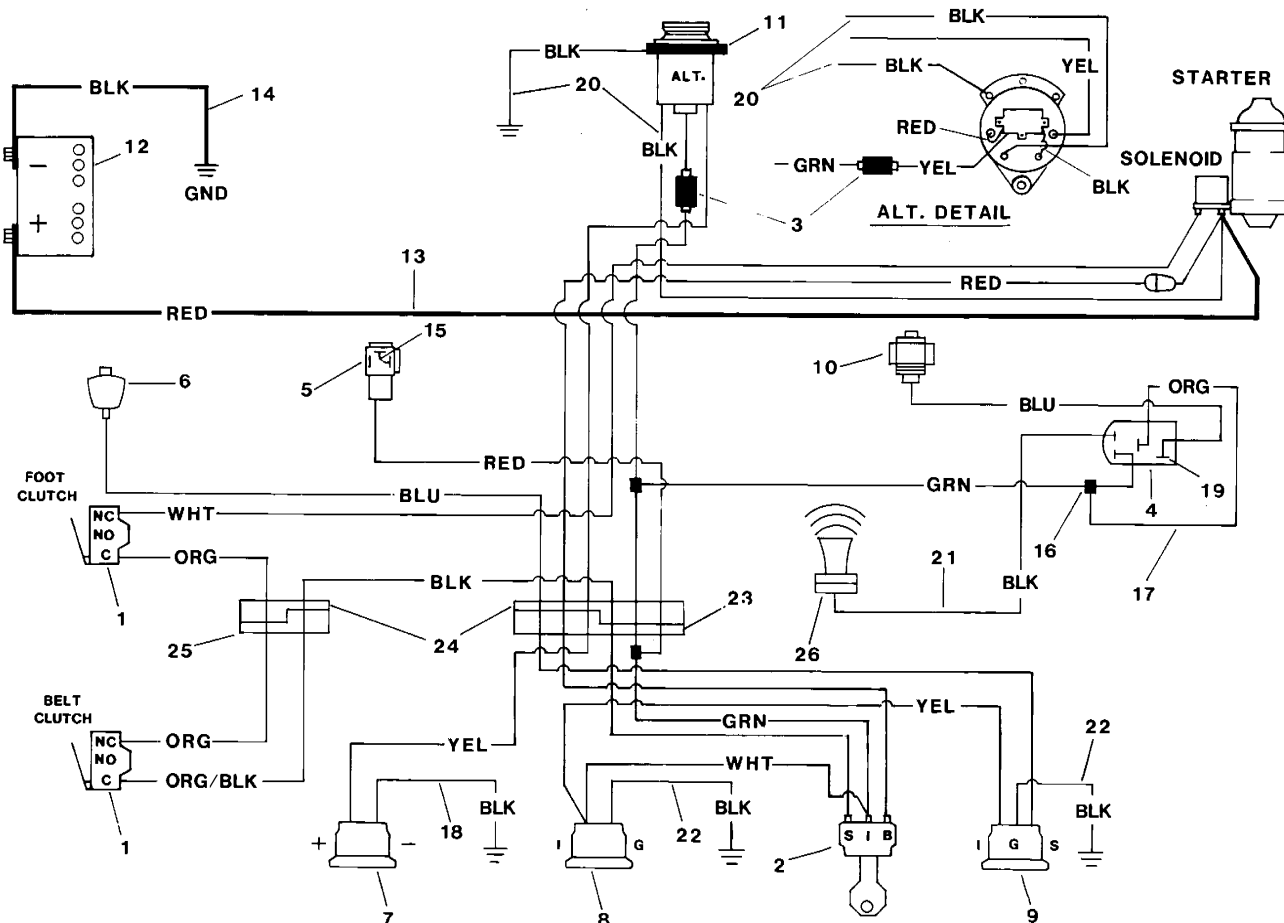
³This kit converts 2300 trenchers from 2-Post R.O.P.S. to 4-Post R.O.P.S. Refer to installation diagram 050-136.

⁴This kit converts 2300 trenchers from basic unit to 2-Post R.O.P.S. Refer to installation diagram 050-931.

ELECTRICAL DIAGRAM

DEUTZ ENGINE

(Units with Fuse Holder)



Ref. No.	Part Number	Qty.	Description
1.	215-046	2	Safety Switch
2.	215-051	1	Ignition Switch
	105-909		Jam Nut
	215-052		Keys (pair)
3.	215-054	1	Diode
4.	215-063	1	Relay
5.	215-066	1	Shut-Off Solenoid
6.	215-113	1	Oil Sender
7.	215-128	1	Hour Meter
8.	215-129	1	Voltmeter
9.	215-131	1	Oil Gauge
10.	215-143	1	Head Temperature Sender
11.	215-156	1	Alternator
12.	215-253	1	Battery (12V/525AMP)
	215-258	1	Battery (12V/675AMP)—used w/A220
13.	215-328	1	Battery Cable (35" LG)
	215-334	1	Battery Cable (90" LG)—used w/A220
14.	215-329	1	Battery Cable (45" LG)
	215-325	1	Battery Cable (80" LG)—used w/A220
15.	215-457	1	Wire (16 GA x 1", BLK)

Ref. No.	Part Number	Qty.	Description
16.	215-477	1	Quick Connector (16 GA)
17.	215-481	1	Wire (16 GA x 6" LG)
18.	215-487	1	Wire (16 GA x 10" LG)
19.	215-527	1	Female Terminal
20.	215-543	2	Wire (10 GA x 7" LG)
21.	215-553	1	Wire (16 GA x 20" LG)
22.	215-617	2	Wire (16 GA x 10")
23.	215-652	1	Console Harness
24.	215-653	1	Engine Harness
	215-620		Fuse Holder
	215-056		Fuse
25.	215-658	1	Frame Harness
26.	306-601	1	Horn

Not Shown:

215-415 Light Kit

¹Refer to installation diagram 052-103 when changing from a Deutz to a Murphy shutoff solenoid.

²Refer to page entitled ELECTRICAL DIAGRAM — DEUTZ ENGINE — (Begins with S/N 300144), for replacement alternator and wire.

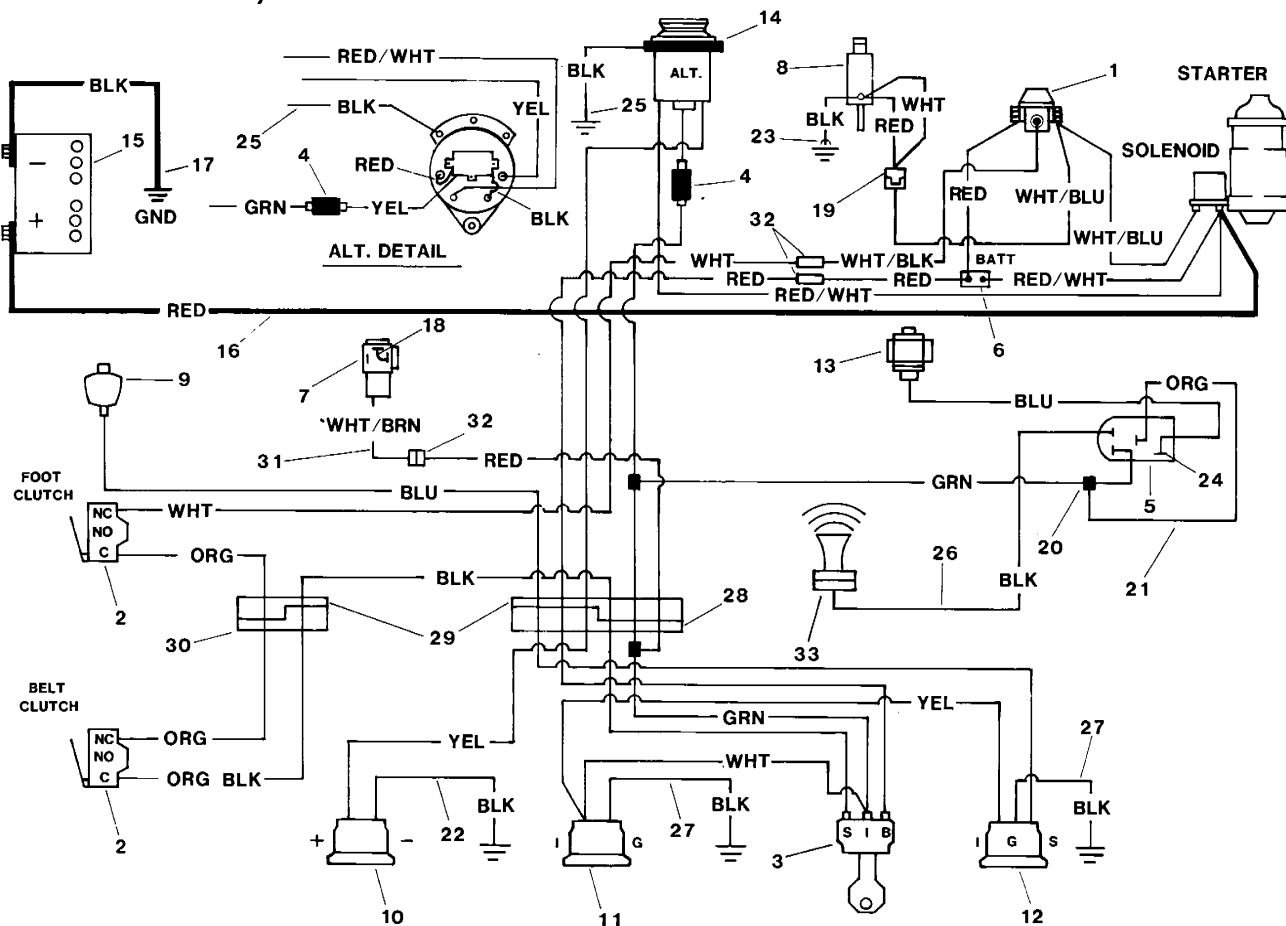
³Refer to installation diagram 050-162 when mounting an A220.

* Electrical schematic 050-811.

ELECTRICAL DIAGRAM

DEUTZ ENGINE

(Begins with Circuit Breaker
Ends with S/N3D0143)



Ref. No.	Part Number	Qty.	Description
1.	215-026	1	¹ Solenoid Switch
2.	215-046	2	Safety Switch
3.	215-051	1	Ignition Switch
	105-909		Jam Nut
	215-052		Keys (pair)
4.	215-054	1	Diode
5.	215-063	1	Relay
6.	215-065	1	Circuit Breaker
	105-185		Bolt (No. 10-24 x 1/2", RD SLT HD)
	105-811		Locknut (No. 10-24)
7.	215-066	1	³ Shut-Off Solenoid
8.	215-076	1	¹ Extra Fuel Solenoid
9.	215-113	1	Oil Sender
10.	215-128	1	Hour Meter
11.	215-129	1	Voltmeter
12.	215-131	1	Oil Gauge
13.	215-143	1	Head Temperature Sender
14.	215-156	1	² Alternator
15.	215-253	1	Battery (12V/525AMP)
	215-258	1	⁶ Battery (12V/675AMP)—used w/A220
16.	215-328	1	Battery Cable (35" LG)
	215-334	1	⁶ Battery Cable (90" LG)—used w/A220
17.	215-329	1	Battery Cable (45" LG)
	215-325	1	⁶ Battery Cable (80" LG)—used w/A220
18.	215-457	1	Wire (16 GA)—use 1"
19.	215-458	1	Male Bullet Terminal (.156")
20.	215-477	1	Quick Connector (16 GA)

Ref. No.	Part Number	Qty.	Description
21.	215-481	1	Wire (16 GA x 6 LG)
22.	215-487	1	Wire (16 GA x 10" LG)
23.	215-494	1	Spade Terminal (#10)
24.	215-527	2	Female Terminal (1/4")
25.	215-543	1	Wire (10 GA x 12" LG)
26.	215-553	1	Wire (16 GA x 20" LG)
27.	215-617	2	Wire (16 GA x 10")
28.	215-652	1	Console Harness
29.	N.A.	1	⁴ Engine Harness
30.	215-658	1	⁵ Frame Harness
31.	215-676	1	Wire (16 GA x 6")
32.	215-690	1	¹ Extra Fuel Harness
33.	306-601	1	Horn

Not Shown:

215-415 Light Kit

¹Units, prior to S/N 3C0056, that do not have extra fuel solenoid may be retrofit by ordering extra fuel harness (ref. no. 32) and related parts and referring to installation instructions.

²Refer to page entitled ELECTRICAL DIAGRAM — DEUTZ ENGINE — (Begins with S/N 3D0144) for replacement alternator and wire.

³Refer to installation diagram 052-103 when changing from a Deutz to a Murphy shutoff solenoid.

⁴Refer to page entitled ELECTRICAL DIAGRAM — DEUTZ ENGINE — (Begins with S/N 3D0144) for replacement engine harness (which includes wiring for extra fuel solenoid).

⁵This page applies to units which do not have a safety switch on the crowd speed control valve.

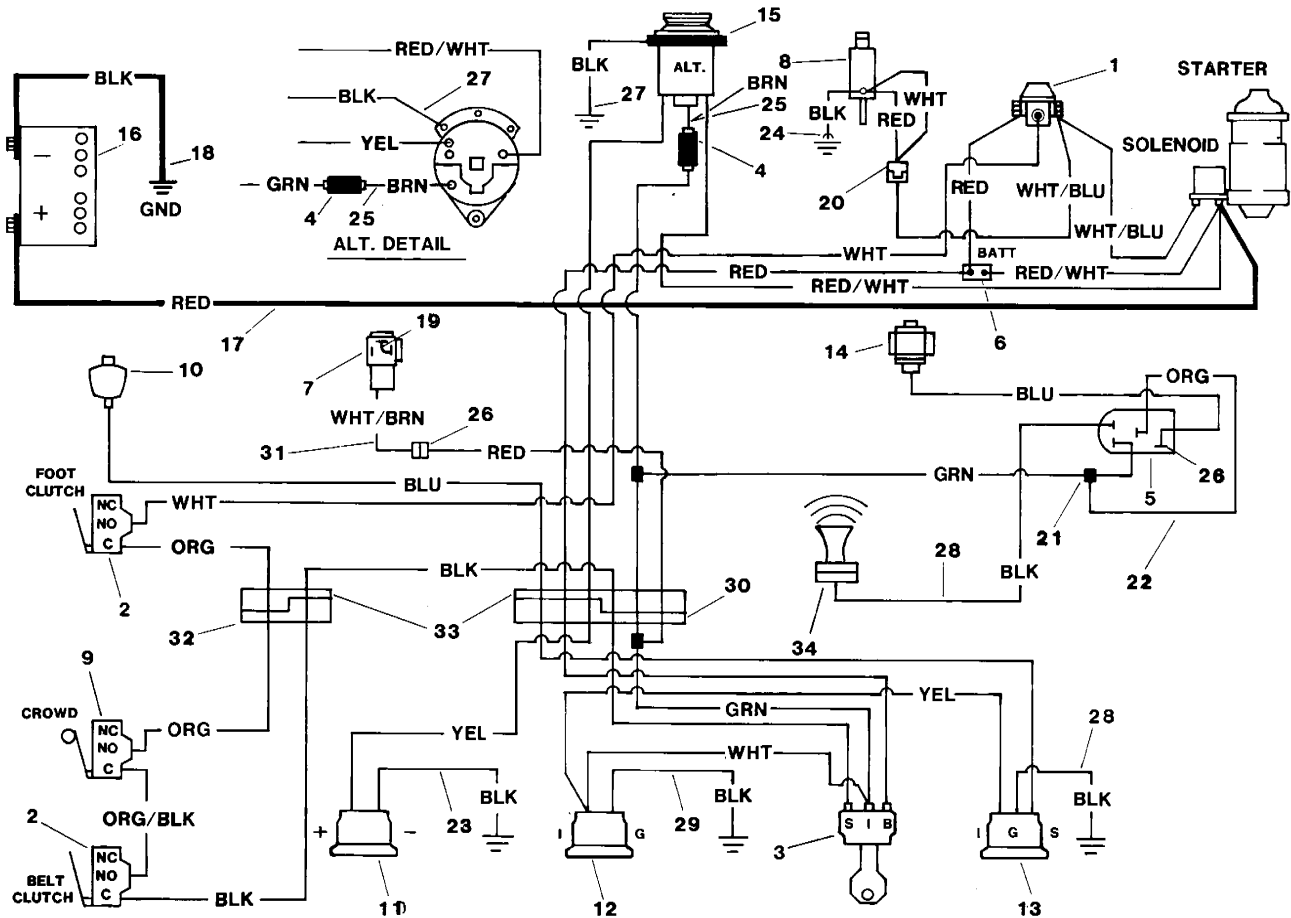
⁶Refer to installation diagram 050-162 when mounting an A220.

* Electrical schematic 050-811.

ELECTRICAL DIAGRAM

DEUTZ ENGINE

(Begins with S/N 3D0144)



Ref. No.	Part Number	Qty.	Description
1.	215-026	1	Solenoid Switch
2.	215-046	2	Safety Switch
3.	215-051	1	Ignition Switch
	105-909		Jam Nut
	215-052		Keys (pair)
4.	215-054	1	Diode
5.	215-063	1	Relay
6.	215-065	1	Circuit Breaker
Breaker Hardware:			
	105-185	2	Bolt (No. 10-24 x 1/2", RD SLT HD)
	105-811	2	Locknut (No. 10-24)
7.	215-066	1	² Shut-Off Solenoid
8.	215-076	1	Extra Fuel Solenoid
9.	215-087	1	Safety Switch
10.	215-113	1	Oil Sender
11.	215-128	1	Hour Meter
12.	215-129	1	Voltmeter
13.	215-131	1	Oil Gauge
14.	215-143	1	Head Temperature Sender
15.	215-161	1	¹ Alternator
16.	215-253	1	Battery (12V/525AMP)
	215-258	1	⁴ Battery (12V/675AMP)—used w/A220
17.	215-328	1	Battery Cable (35" LG)
	215-334	1	⁴ Battery Cable (90" LG)—used w/A220

Ref. No.	Part Number	Qty.	Description
18.	215-329	1	Battery Cable (45" LG)
	215-325	1	⁴ Battery Cable (80" LG)—used w/A220
19.	215-457	1	Wire (16 GA)—use 1"
20.	215-458	1	Male Bullet Terminal (.156")
21.	215-477	1	Quick Connector (16 GA)
22.	215-481	1	Wire (16 GA x 6 LG)
23.	215-487	1	Wire (16 GA x 10" LG)
24.	215-494	1	Spade Terminal (#10)
25.	215-499	1	¹ Wire (14 GA x 6" LG)
26.	215-527	2	Female Terminal (1/4")
27.	215-543	1	Wire (10 GA x 12" LG)
28.	215-553	1	Wire (16 GA x 20" LG)
29.	215-617	2	Wire (16 GA x 10")
30.	215-652	1	Console Harness
31.	215-676	1	Wire (16 GA x 6")
32.	215-711	1	Frame Harness
33.	215-713	1	³ Engine Harness
34.	306-601	1	Horn

Not Shown:

215-415 Light Kit

¹Wire (ref. no. 25) is required on machines which use alternator (#8EA2001FA) with regulator (#8RC2009).

²Refer to installation diagram 052-103 when changing from a Deutz to a Murphy shutoff solenoid.

³Engine harness (ref. no. 33) replaces earlier engine harness and extra fuel harness.

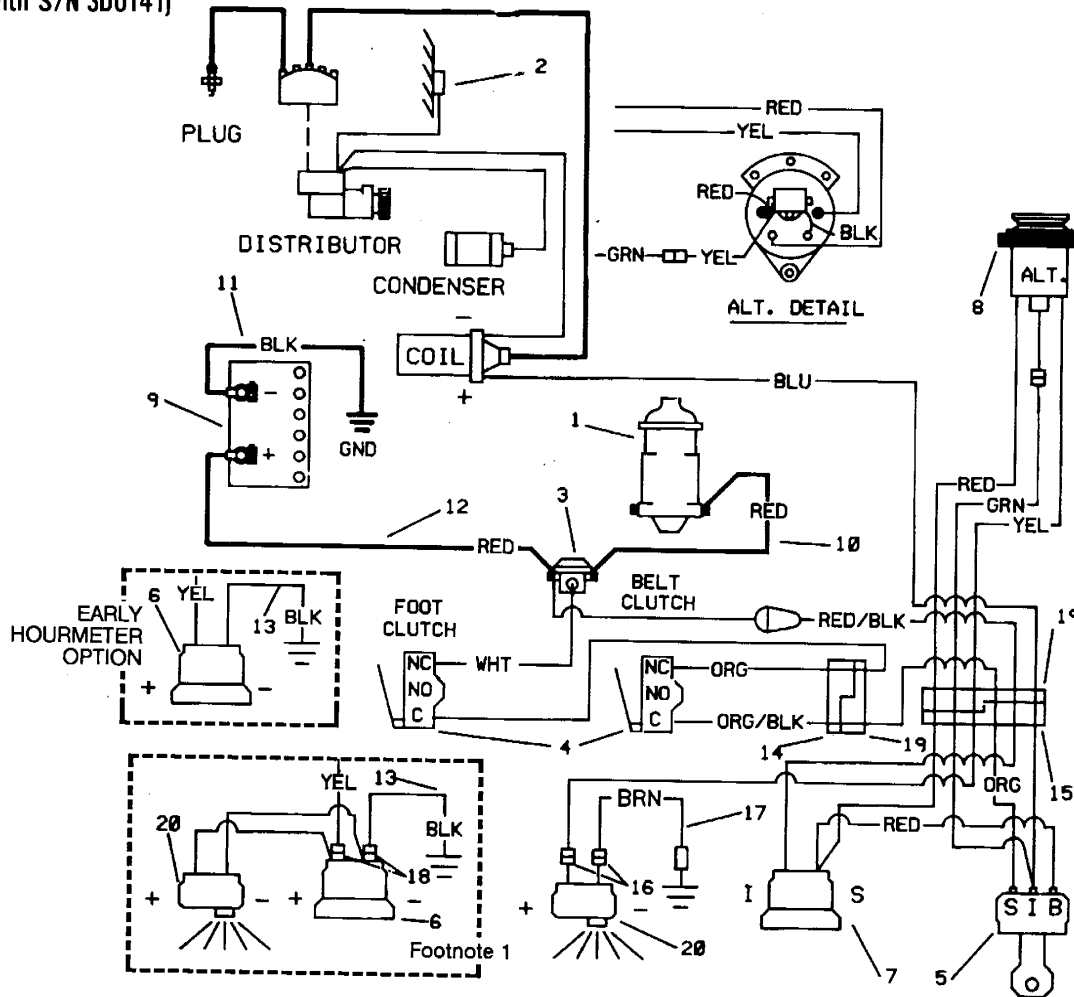
⁴Refer to installation diagram 050-162 when mounting an A220.

* Electrical schematic 050-811.

ELECTRICAL DIAGRAM

WISCONSIN ENGINE

(Ends with S/N 3D0141)



Ref. No.	Part Number	Qty.	Description
1.	195-424	1	Starter
2.	195-359	1	Breaker Point Set
	195-439	1	Breaker Point Set
3.	215-026	1	Solenoid
4.	215-046	2	Safety Switch
5.	215-051	1	Ignition Switch
	215-052		Key (pair)
	105-909	1	Jam Nut (13/16-NEF)
6.	215-102	1	Hour Meter (2-1/16" OD)—early style
	105-189	3	Screw (No. 6-32 x 1/2")
	215-128	1	Hour Meter (2-1/8" OD)
7.	215-101	1	Ammeter (-30 to 30)—early style
	215-138	1	Ammeter (-40 to 40)
8.	215-156	1	Alternator
9.	215-254	1	Battery (12V/315AMP)
10.	215-304	1	Battery Cable (13")
11.	215-306	1	Battery Cable (30")
	215-323	1	Battery Cable (40")—used w/A220
12.	215-308	1	Battery Cable (38")
	215-324	1	Battery Cable (108")—used w/A220
13.	215-487	1	Wire (16 GA x 10")
14.	215-576	1	Frame Harness
15.	215-577	1	Console Harness
16.	215-584	2	Male Terminal (18 GA)
17.	215-586	1	Wire (Incl. resistor)
18.	215-589	2	Piggy-Back Terminal (18 GA)

Ref. No.	Part Number	Qty.	Description
19.	215-591	1	Engine Harness
	215-620	1	Fuse Holder
	215-056	1	Fuse (30 AMP)
20.	216-001	1	Service Indicator
	105-215	1	Nut (No. 6-32)
	105-801	1	Bolt (No. 6-32 x 1-1/4", CSK SLT HD)

Not Shown:

215-415	Light Kit (optional)
116-193	Positive Terminal Cover

¹Ends with S/N 301242. See footnote 5.

²Use of Prestolite distributor parts ends with Wisconsin engine S/N 6164220. See footnote 3.

³Use of Colt distributor parts begins with Wisconsin engine S/N 6164221.

⁴Refer to installation diagram 050-103 when mounting an A220.

⁵Replacement console harness (ref. no. 15) does not provide for wiring of service indicator (ref. no. 20). See footnote 9.

⁶Refer to page entitled ELECTRICAL DIAGRAM — WISCONSIN ENGINE — (S/N 3D0142 thru S/N 3D1026) for replacement alternator and wire.

⁷Refer to page entitled ELECTRICAL DIAGRAM — WISCONSIN ENGINE — (Begins with S/N 3D1027) for replacement engine harness and circuit breaker.

⁸Frame harness (ref. no. 14) does not allow for installation of crowd safety switch. See footnote 9.

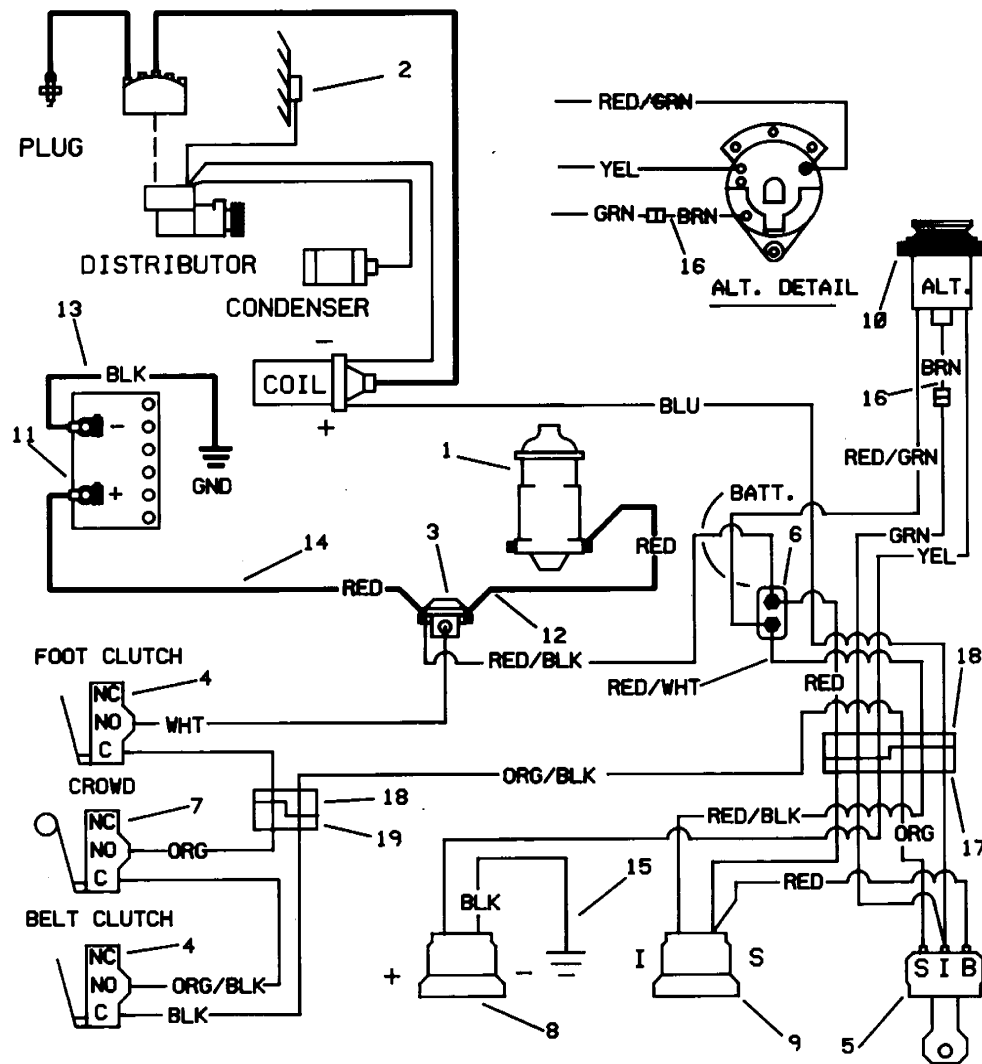
⁹Replacement frame and console harnesses (ref. no.'s 14 and 15), with 56 series packard plugs, require that mating harness be replaced or the molded rubber plug on old harness be replaced by a compatible plug.

* Electrical Schematic 050-815

ELECTRICAL DIAGRAM

WISCONSIN ENGINE

(Begins with S/N 3D1027)



Ref. No.	Part Number	Qty.	Description
1.	195-424	1	Starter
2.	195-359	1	Breaker Point Set
	195-439	1	Breaker Point Set
3.	215-026	1	Solenoid
4.	215-046	2	Safety Switch
5.	215-051	1	Ignition Switch
	105-909	1	Jam Nut (13/16-NEF)
	215-052		Key (pair)
6.	215-065	2	Circuit Breaker
Breaker Hardware:			
	105-185	2	Bolt (No. 10-24 x 1/2", RD SLT HD)
	105-811	2	Locknut (No. 10-24)
7.	215-087	1	Safety Switch
8.	215-128	1	Hour Meter
9.	215-138	1	Ammeter
10.	215-161	1	Alternator
11.	215-254	1	Battery (12V/315AMP)
12.	215-304	1	Battery Cable (13")
13.	215-306	1	Battery Cable (30")
	215-323	1	Battery Cable (40")—used w/A220

Ref. No.	Part Number	Qty.	Description
14.	215-308	1	Battery Cable (38")
	215-324	1	Battery Cable (108")—was used w/A220
	215-334	1	Battery Cable (90")—now used w/A220
15.	215-487	1	Wire (16 GA x 10")
16.	215-499	1	Wire (16 GA x 10")
17.	215-577	1	Console Harness
18.	215-687	1	Engine Harness
19.	215-710	1	Frame Harness

Not Shown:

116-193	Terminal Cover
215-415	Light Kit (optional)

¹Prestolite parts end with engine S/N 6164220. See footnote 2.

²Colt parts begin with engine S/N 6164221.

³Refer to installation diagram 050-103 when mounting an A220.

⁴Replacement engine harness (ref. no. 18) allows for circuit breaker (ref. no. 6). See footnote 6.

⁵Replacement frame harness (ref. no. 19) allows for crowd safety switch (ref. no. 7). See footnote 6.

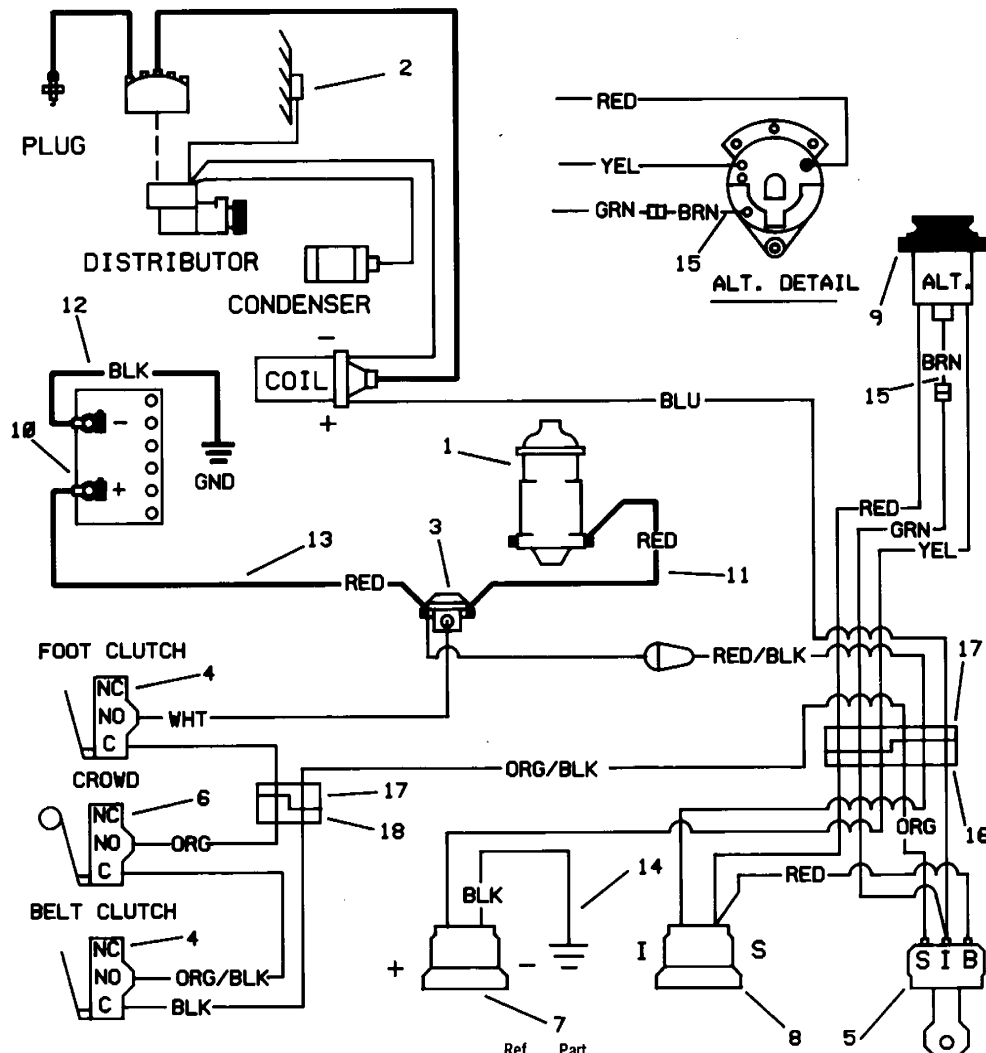
⁶Replacement console, engine and frame harnesses (ref. no.'s 17 thru 19), with 56 series packard plugs, require that mating harness be replaced or the molded rubber plug on old harness be replaced by a compatible plug.

* Electrical schematic 050-815.

ELECTRICAL DIAGRAM

WISCONSIN ENGINE

(S/N 3D0142 thru S/N 3D1026)



Ref. No.	Part Number	Qty.	Description
1.	195-424	1	Starter
2.	195-359	1	¹ Breaker Point Set
	195-439	1	² Breaker Point Set
3.	215-026	1	Solenoid
4.	215-046	2	Safety Switch
5.	215-051	1	Ignition Switch
	105-909	1	Jam Nut (13/16-NEF)
	215-052		Key (pair)
6.	215-087	1	Safety Switch
7.	215-128	1	Hour Meter
8.	215-138	1	Ammeter
9.	215-161	1	⁴ Alternator
10.	215-254	1	Battery (12V/315AMP)
11.	215-304	1	Battery Cable (13")
12.	215-306	1	Battery Cable (30")
	215-323	1	³ Battery Cable (40")—used w/A220
13.	215-308	1	Battery Cable (38")
	215-324	1	³ Battery Cable (108")—was used w/A220
14.	215-487	1	Wire (16 GA x 10")
15.	215-499	1	⁴ Wire (16 GA x 10")

Ref. No.	Part Number	Qty.	Description
16.	215-577	1	⁶ Console Harness
17.	N.A.	1	⁵ Engine Harness
	215-056		Fuse (30 AMP)
	215-620		Fuse Holder
18.	215-710	1	⁷ Frame Harness

Not Shown:

116-193	Terminal Cover
215-415	Light Kit (optional)

¹Prestolite parts end with engine S/N 6164220. See footnote 2.

²Colt parts begin with engine S/N 6164221.

³Refer to installation diagram 050-103 when mounting an A220.

⁴Wire (ref. no. 15) is required on machines which use alternator (#8EA2001FA) with regulator (#8RC2009A).

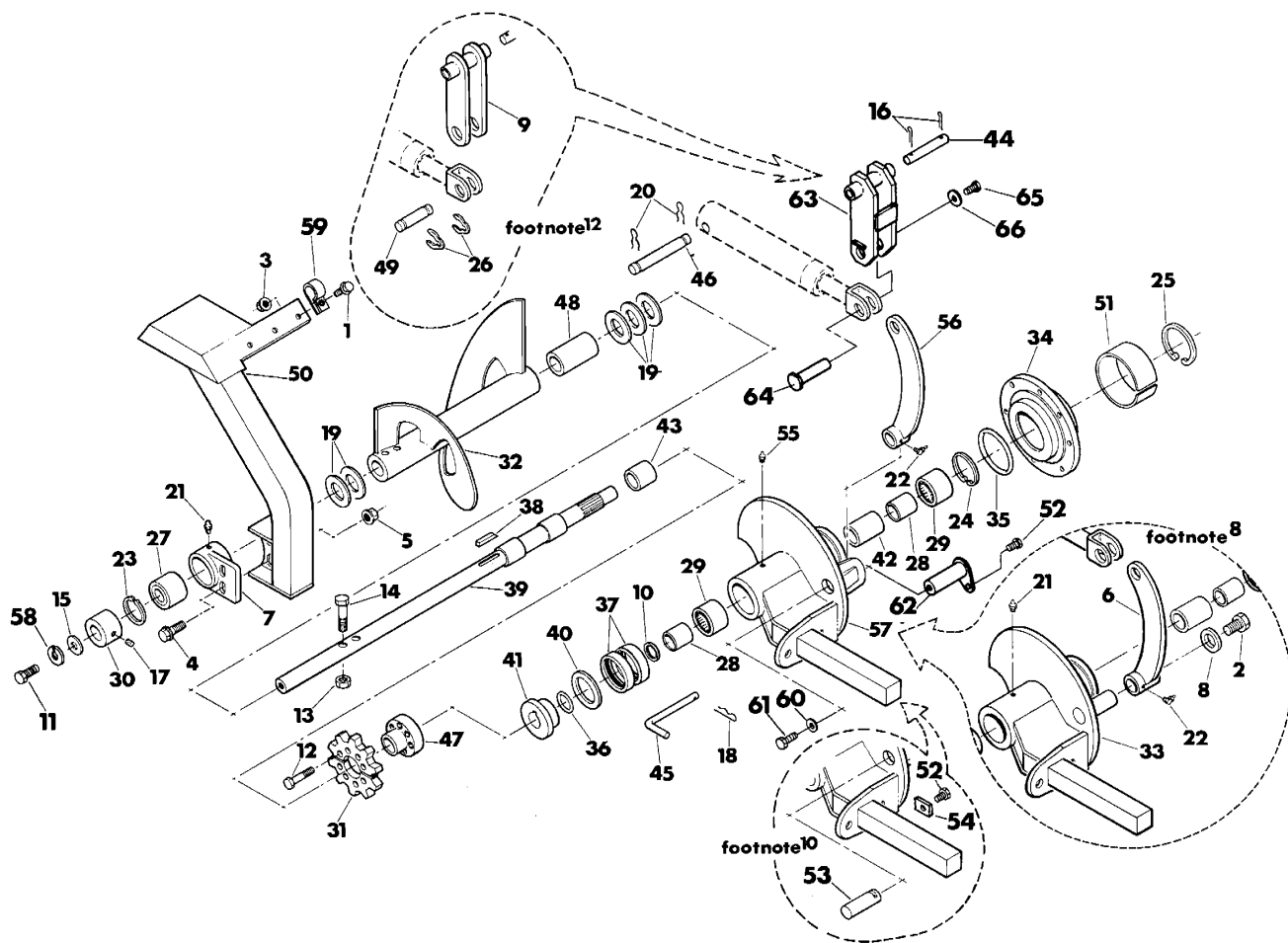
⁵Refer to page entitled ELECTRICAL DIAGRAM — WISCONSIN ENGINE — (Begins with S/N 3D1027) for replacement engine harness and circuit breaker. See footnote 7.

⁶Replacement frame harness (ref. no. 18) allows for use of crowd safety switch (ref. no. 6). See footnote 7.

⁷Replacement console and frame harnesses (ref. no.'s 16 and 18), with 56 series packard plugs, require that mating harness be replaced or the molded rubber plug on old harness be replaced by a compatible plug.

* Electrical schematic 050-815.

PIVOT



Ref. No.	Part Number	Qty.	Description
1.	105-826	7	Flange Lock Bolt (3/8-NC x 1")
2.	105-045	1	⁸ Bolt (1/2-NC x 1-1/4", Nylok)
3.	105-834	7	Flange Locknut (3/8-NC)
4.	105-831	2	Flange Lock Bolt (1/2-NC x 1-1/2")
5.	105-833	2	Flange Locknut (1/2-NC)
6.	361-450	1	⁸ Offset Pivot Link (single arm)
7.	360-250	1	Bearing Housing
8.	105-088	1	⁸ Washer
9.	361-449	1	⁵ Centered Link (double arm)
10.	110-305	AR	¹ Machinery Bushing (18 GA)
11.	105-176	1	Bolt (1/2-NC x 1-1/4", LFT THDS)
12.	105-265	8	Flange Bolt (1/2-NC x 2")
13.	105-357	1	Locknut (5/8-NC)
14.	105-376	1	Bolt (5/8-NC x 3", GD 8)
15.	105-475	1	Washer

Ref. No.	Part Number	Qty.	Description
16.	105-501	2	⁴ Cotter Pin (1/8" x 2")
	105-502	2	⁵ Cotter Pin (3/16" x 2")
17.	105-702	1	Setscrew (3/8-NC x 3/8")
18.	110-033	1	Spring Clip Pin
19.	110-054	5	Machinery Bushing
20.	110-094	2	Clip Pin
21.	115-001	1	Zerk (1/8-NPT, STR)—early pivots
	115-003	1	Zerk (1/4-NF, STR)
22.	115-002	1	Zerk (1/8-NPT x 90°)
23.	115-451	1	Internal Snap Ring (3.734" OD)
24.	115-452	1	Internal Snap Ring (3.325" OD)
25.	115-453	1	External Snap Ring
26.	115-499	2	¹² Clip Ring
27.	125-002	1	Bearing (Incl. ref. no. 30)
28.	125-246	2	² Race

(Continued on following page.)

PIVOT (Cont'd.)

Ref. No.	Part Number	Qty.	Description
29.	125-247	2	Bearing
30.	125-705	1	Lock Collar (Incl. ref. no. 17)
31.	142-005	1	¹⁴ Split Head Shaft Sprocket (2" P)
32.	145-173	1	Auger
33.	145-595	1	⁸ 12" Pivot
	145-624	1	⁸ 16" Pivot
34.	145-952	1	⁷ Pivot Adapter (single piece)
	145-963	1	⁷ Pivot Adapter (requires sleeve)
35.	155-701	1	O-Ring (-345)
36.	155-704	1	O-Ring (-224)
37.	155-801	2	Internal Seal
38.	165-901	1	Key (1/2" SQ x 2-1/2", w/45° end)
39.	167-003	1	² Head Shaft (Incl. ref. no.'s 24 and 38)—for 12" pivot
	167-004	1	² Head Shaft (Incl. ref. no.'s 24 and 38)—for 16" pivot
40.	180-026	1	Fiber Spacer
41.	180-028	1	Seal Spacer
42.	181-672	1	² Spacer (for 12" pivot)
	180-040	1	² Spacer (for 16" pivot)
43.	180-105	1	Spacer (for 16" pivot)
44.	180-339	1	⁴ Double Arm Pin (3/4" OD x 5" LG)
	180-560	1	⁵ Double Arm Pin (3/4" OD x 6" LG)
45.	180-347	1	⁶ Pivot Lock Pin
46.	180-524	1	Barrel Pin
47.	181-267	1	Sprocket Hub
48.	181-302	1	Auger Spacer
49.	183-138	1	¹² Rod Pin (uses clip ring)
50.	300-869	1	Bearing Support
	190-332		³ Outboard Bearing Kit (Incl. ref. no.'s 1, 3, 4, 5, 15, 17, 19, 21, 23, 27, 30 and 50)
51.	145-954	1	⁷ Sleeve (2-9/16" LG)
52.	105-024	1	⁹ Bolt (3/8-NC x 3/4", Nylok)
53.	183-459	1	¹⁰ Pivot Cylinder Pin
54.	302-056	1	¹⁰ Mounting Plate
55.	115-001	1	Zerk (1/8-NPT, STR)—early pivots
	115-003	1	Zerk (1/4-NF, STR)

Ref. No.	Part Number	Qty.	Description
56.	361-890	1	⁹ Offset Pivot Link (single arm)
57.	145-653	1	⁹ 12" Pivot
	145-654	1	⁹ 16" Pivot
58.	105-070	1	Lock Washer (1/2")
59.	110-126	1	Clamp (7/16")
60.	105-069	1	¹¹ Washer (3/8")
61.	105-024	1	¹¹ Bolt (3/8-NC x 3/4", nylok)
62.	183-536	1	¹¹ Pin (4.6" LG)
63.	365-035	1	¹³ Centered Link (double arm)
64.	183-551	1	¹³ Rod Pin (bolt)
65.	105-024	1	¹³ Bolt (3/8-NC x 3/4", Nylok)
66.	105-069	1	¹³ Washer (3/8")

Not Shown:

140-555	Pivot Stub (weld on replacement)
145-428	Rock Guard (weld on replacement)
180-309	Pivot Pin (weld on replacement for early style pivots)

¹The proper amount of spacing is provided by machinery bushings when the fiber spacer is able to turn freely between seal spacer and end of pivot tube.

²Refer to 052-128 installation diagram for replacing races on headshaft.

³Refer to installation diagram 050-021.

⁴Early style double arm pin and cotter pin. See footnote 5.

⁵This early style pivot link (ref. no. 9) may require 6" long double arm pin and 3/16" cotter pins (ref. no.'s 44 and 16). See footnote 12.

⁶Ends with S/N 300741. Lock pin is not required if lockout valve is used on pivot hydraulics.

⁷Beginning with S/N 303693, adapter and sleeve (ref. no.'s 34 and 51) replace single piece pivot adapter.

⁸Ends with S/N 380613. See footnote 9.

⁹Begins with S/N 380614. Replacement of pivots prior to this serial number, with this pivot, requires use of pin and hardware (ref. no.'s 60 thru 62) and modification of frame slot and offset pivot link (or new offset pivot link). Refer to instructions included with replacement pivot. See footnotes 10 and 11.

¹⁰S/N 380614 thru S/N 3D1076. Pin and plate (ref. no.'s 53 and 54) are replaced by pin and hardware (ref. no.'s 60 and 61). See footnote 11.

¹¹Begins with S/N 3D1077.

¹²Centered link, clip rings and rod pin (ref. no.'s 9, 26 and 49) are no longer used. If replacement of pivot link is required order pivot link, rod pin and hardware (ref. no.'s 63 thru 66).

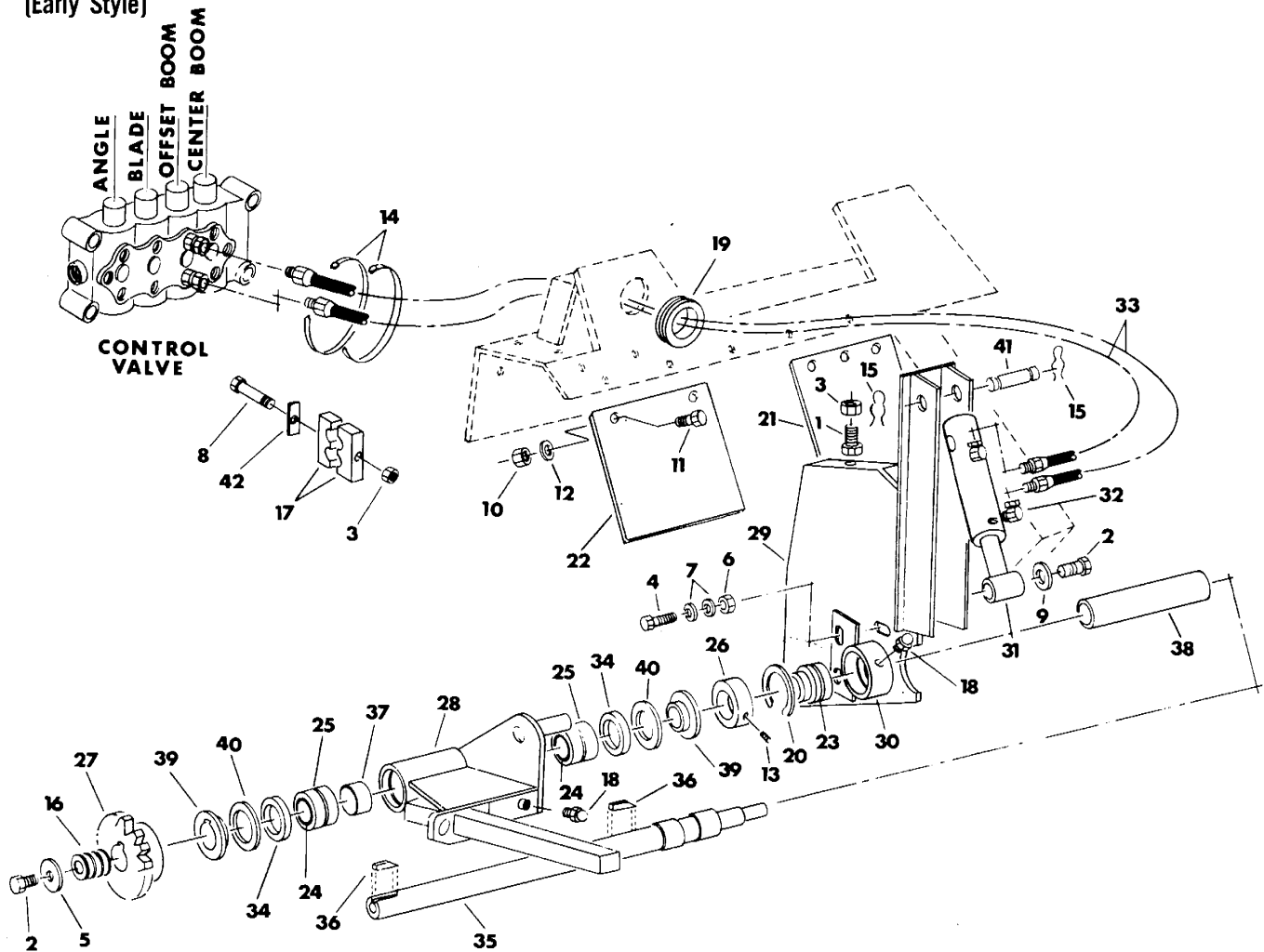
¹³Present production uses centered link, rod pin and hardware (ref. no.'s 63 thru 66).

¹⁴Refer to installation diagram 050-007 and service bulletin 052-712 when installing split sprocket.

OFFSET PIVOT

32-23/32" LG Head Shaft

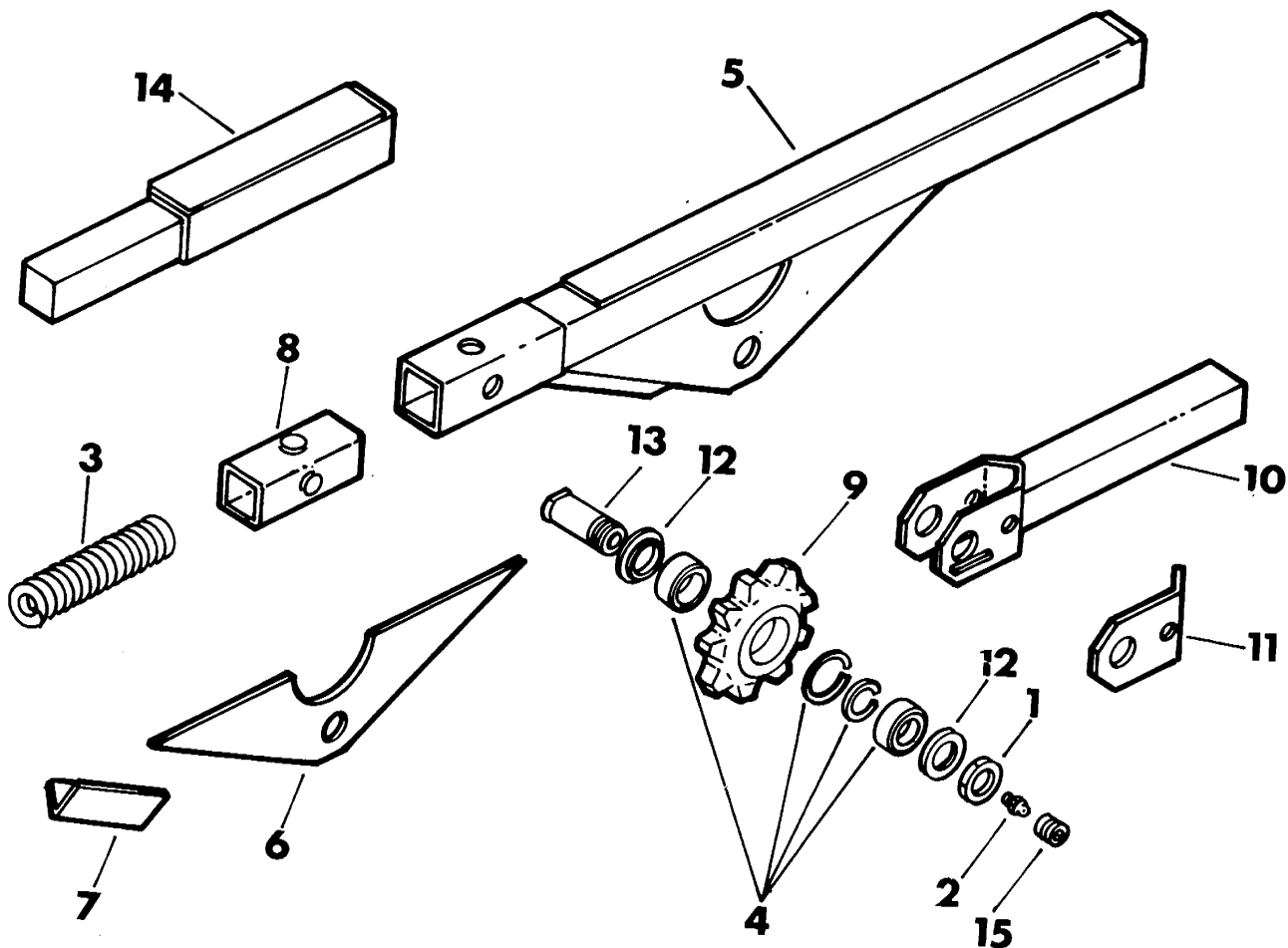
(Early Style)



Ref. No.	Part Number	Qty.	Description
	190-336		Offset Pivot Conversion Kit
1.	105-031	4	Bolt (3/8-NC x 1")
2.	105-045	2	Bolt (1/2-NC x 1-1/4", Nylok)
3.	105-047	5	Locknut (3/8-NC)
4.	105-048	2	Bolt (1/2-NC x 1-1/2")
5.	105-057	1	Washer
6.	105-065	2	Locknut (1/2-NC)
7.	105-071	4	Washer (1/2")
8.	105-075	1	Bolt (3/8-NC x 2")
9.	105-088	1	Washer
10.	105-089	5	Locknut (5/16-NC)
11.	105-094	5	Bolt (5/16-NC x 1")
12.	105-117	5	Washer (5/16")
13.	105-702		Setscrew (3/8-NC x 3/8")
14.	110-030	5	Cable Tie
15.	110-094	2	Spring Clip Pin
16.	110-096	4	Machinery Bushing
17.	110-270	2	Hose Clamp
18.	115-001	2	Zerk (1/8-NPT, STR)
19.	115-320	1	Rubber Grommet
20.	115-451	1	Internal Snap Ring
21.	116-113	1	Inside Spoils Flap
22.	116-114	1	Outside Spoils Flap
23.	125-002	1	Bearing (Incl. ref. no. 26)

Ref. No.	Part Number	Qty.	Description
24.	125-246	2	Bearing Race
25.	125-247	2	Bearing
26.	125-705		Lock Collar (Incl. ref. no. 13)
27.	140-701	1	Head Shaft Sprocket (1.654" P, 12 T)
	140-721	1	Head Shaft Sprocket (2" P, 9 T)
28.	145-626	1	12" Offset Pivot
29.	145-683	1	Pivot Frame
30.	145-686	1	Bearing Housing
31.	150-014	1	Hydraulic Cylinder
32.	155-033	1	Adapter Union (1/4" x 1/4" x 90°, w/orifice)
33.	155-400	2	Hose (1/4" x 110", 2750 PSI)
34.	155-801	2	Internal Seal
35.	165-422	1	Offset Head Shaft (1-3/4" OD x 32-23/32" LG)—Incl. ref. no. 24
	181-672		² Bearing Spacer
36.	165-901	2	Key (1/2" SQ x 2-1/2")
37.	180-004	1	Bearing Spacer
38.	180-005	1	Head Shaft Spacer
39.	180-025	2	Seal Spacer
40.	180-026	2	Head Shaft Fiber Spacer
41.	180-302	1	Pin
42.	305-256	1	Backup Spacer

BOOM 2" Pitch



Ref. No.	Part Number	Qty.	Description
	140-241		Boom Parts Assembly (Incl. ref. no.'s 1 thru 13 and 15)
1.	105-313	2	Jam Nut (1-1/4-NF)
2.	115-003	2	Zerk (1/4-NF, STR)
3.	115-557	1	Compression Spring
4.	125-209	2	Bearing Assembly
	125-297		Bearing (1.25" ID)
	125-298		Race (2.328" OD)
5.	140-248	1	Boom (Incl. ref. no.'s 6 and 8)
6.	140-007		Gusset
7.	140-008		Rock Guard (1-1/2" angle)—weld-on
	140-205		Rock Guard (2" angle)—weld-on
8.	140-013	1	Urethane Boom Sleeve

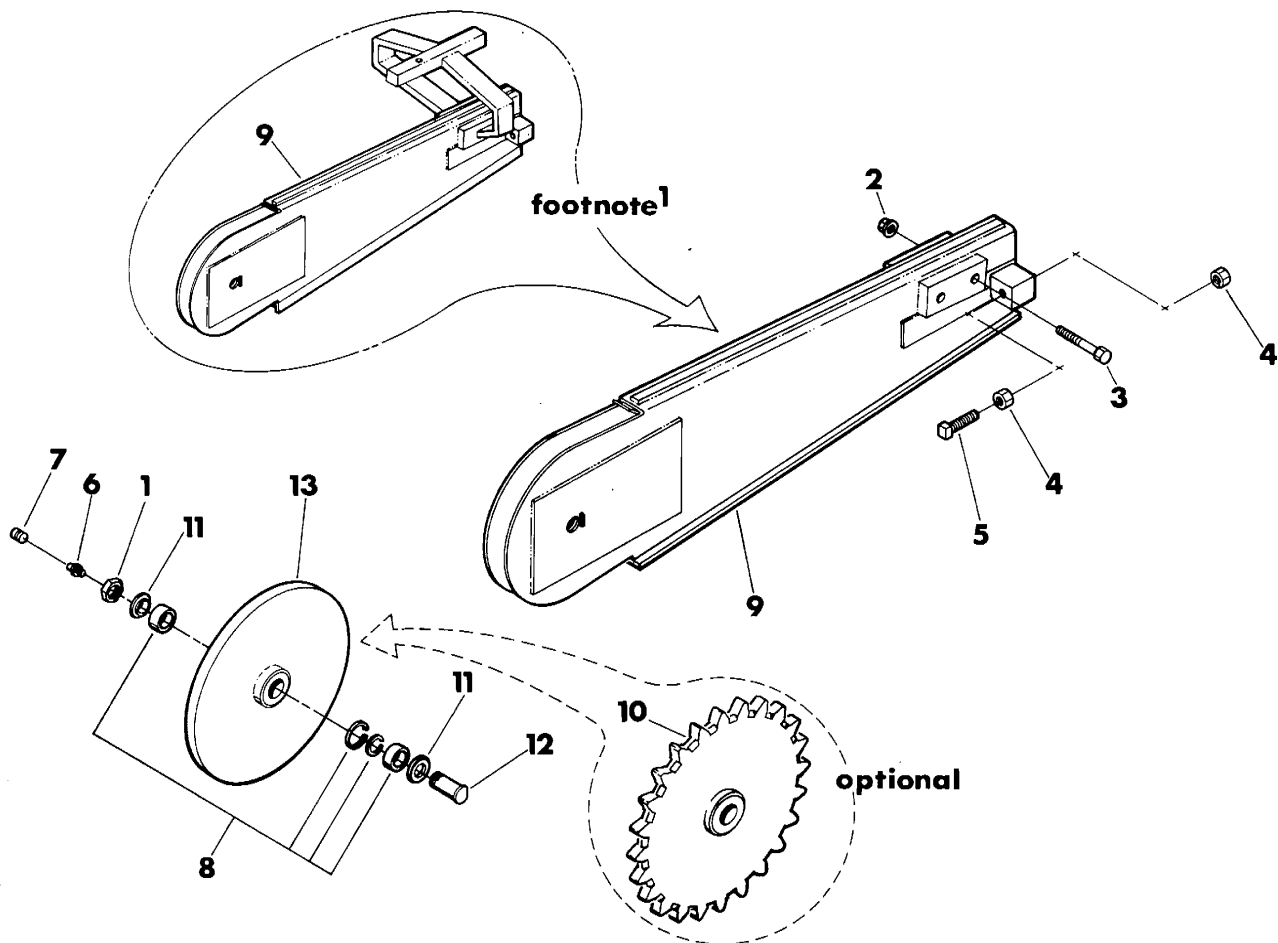
Ref. No.	Part Number	Qty.	Description
9.	140-707	2	Idler Sprocket
	140-654		Idler Sprocket Parts Assembly (Incl. ref. no.'s 4, 9 and 12)
10.	140-765	1	Slide and Stop (Incl. ref. no. 13)
11.	140-766		Slide and Stop Sideplate (weld-on)
12.	180-062	4	Dirt Shield
13.	180-448	2	Sprocket Shaft (Incl. ref. no.'s 2 and 15)
14.	140-588	1	1' Boom Extension
	140-585	1	2' Boom Extension
15.	115-165	2	Pipe Plug (1/2-NPT M)

Not Shown:

259-099 Plug Wrench

¹For bearing driver refer to special tool diagram 052-519.

LARGE TAIL SPROCKET and ROLLER BOOM



Ref. No.	Part Number	Qty.	Description
	140-474	1	¹ Roller Boom Parts Assembly
	140-502	1	² 47.95" Roller Boom Parts Assembly (Incl. ref. no.'s 1 thru 9 and 11 thru 13)
	140-515	1	² 59.2" Roller Boom Parts Assembly (Incl. ref. no.'s 1 thru 9 and 11 thru 13)
	140-506	1	² 47.95" Large Tail Sprocket Boom Parts Assembly (Incl. ref. no.'s 1 thru 12)
	140-508	1	² 59.2" Large Tail Sprocket Boom Parts Assembly (Incl. ref. no.'s 1 thru 12)
1.	105-313	1	Jam Nut (1-1/4-NF)
2.	105-833	2	Flange Locknut (1/2-NC)
3.	105-472	2	Bolt (1/2-NC x 5")
4.	106-033	4	Jam Nut (1-NC)
5.	106-034	2	Setscrew (1-NC x 6", SQ HD)
6.	115-009	1	Zerk (1/4-NF, STR, XLG)—early style
	115-003	1	Zerk (1/4-NF, STR)
7.	115-165	1	Pipe Plug (1/2-NPT, FM ALN HD)
8.	125-209	1	Bearing Assembly
9.	140-475	1	¹ Boom (48.45" LG)
	N.A.	1	² Boom (48.45" LG)
	140-503	1	² Boom (47.95" LG)
	140-509	1	² Boom (59.2" LG)

Ref. No.	Part Number	Qty.	Description
10.	142-021	1	² Sprocket (24T x 2" P, 16" OD)
	142-020	1	² Sprocket Parts Assembly (Incl. ref. no.'s 8, 10 and 11)
11.	180-062	2	Dirt Shield
12.	180-448	1	Sprocket Shaft (Incl. ref. no.'s 6 and 7)
13.	142-752	1	Roller
	142-751	1	Roller Parts Assembly (Incl. ref. no.'s 8, 11 and 13)

Not Shown:

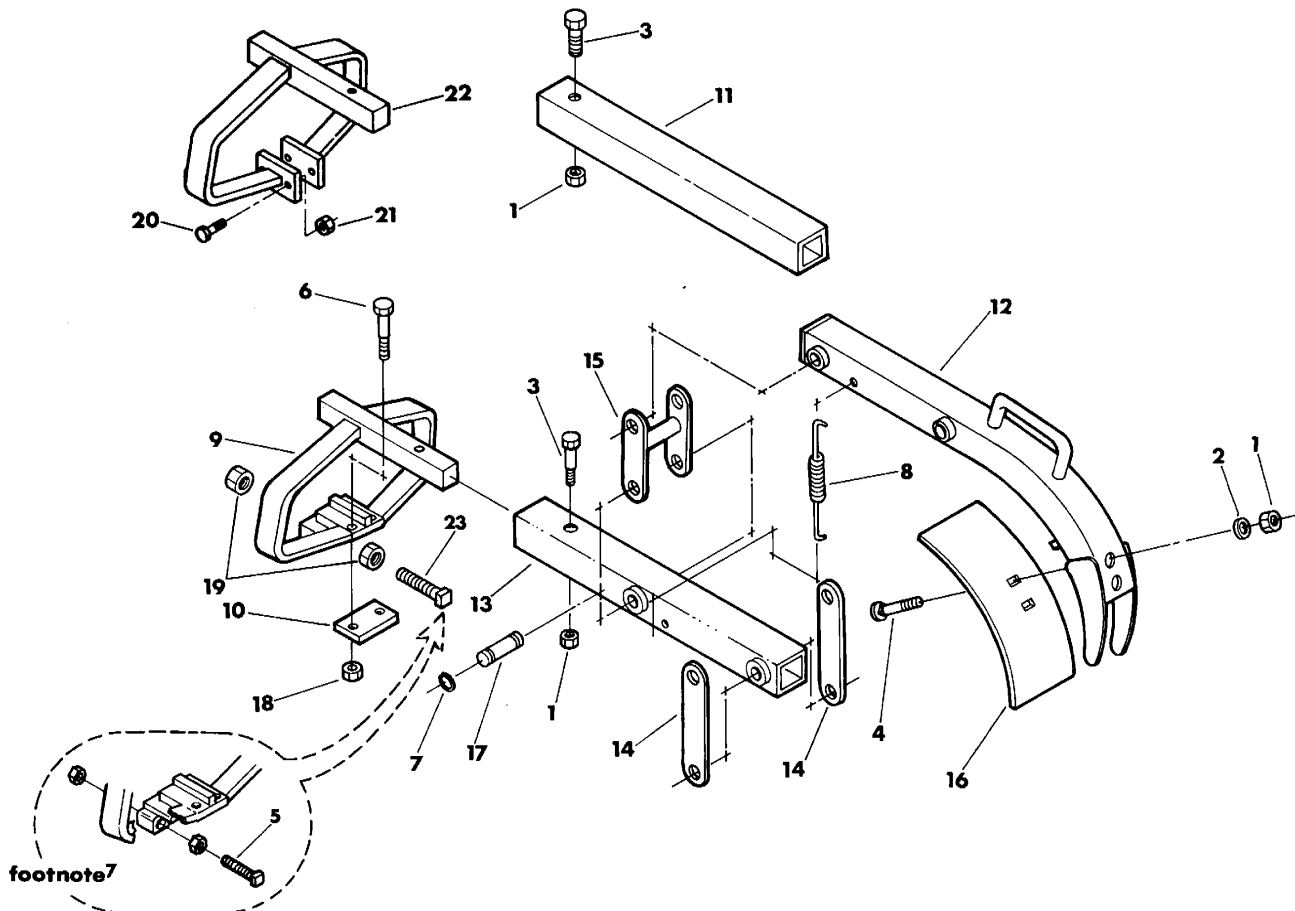
259-099 Plug Wrench (3/8" drive)

¹Roller boom with weld-on cleaner support is no longer available. Replace with either 47.95" or 59.2" long boom (ref. no. 9), roller (ref. no. 13) and bolt on Cleaner support (refer to TRENCH CLEANER page). See footnotes 2 and 3.

²Sprockets are available for field installation only. Sprocket or roller (ref. no.'s 10 or 13) may be mounted on either 47.95" or 59.2" long boom (ref. no. 9). Sprocket may not be used on early style (48.45" LG) booms. See footnote 3.

³IMPORTANT: Roller and large tail sprocket booms should be mounted only on machines equipped with pivots designed for their use.

TRENCH CLEANER



Ref. No.	Part Number	Qty.	Description
	100-150		⁶ Mechanical Cleaner Conversion Kit (Incl. ref. no.'s 1, 2, 4, 7, 8, 12, 14, 15 and 17)
	100-151		⁵ Mechanical Cleaner Conversion Kit (Incl. ref. no.'s 1, 2, 4, 7, 8, 12, 14, 15 and 17)
1.	105-065	3	Locknut (1/2-NC)
2.	105-071	2	Washer (1/2")
3.	105-136	1	Bolt (1/2-NC x 3-1/2")
4.	105-279	2	Carriage Bolt (1/2-NC x 3")
5.	105-352	2	⁷ Screw (3/4-NC x 5", SQ HD)
6.	105-802	2	¹ Bolt (1/2-NC x 5-1/2")
	105-472	2	² Bolt (1/2-NC x 5")
	105-111	2	³ Bolt (1/2-NC x 4")
7.	115-503	8	External Clip Ring
8.	115-602	2	Extension Spring
9.	141-090	1	⁷ Cleaner Support (for STD boom)
	141-195	1	⁸ Cleaner Support (for STD boom)
10.	141-098	1	³ Trench Cleaner Support Clamp Bar
11.	141-097		3' Personnel Restraint Bar
	141-099		4' Personnel Restraint Bar
	141-100		5' Personnel Restraint Bar
12.	141-101	1	⁵ Shoe Beam
	141-209	1	⁶ Shoe Beam
13.	141-103		³ Lower Cleaner Bar
	141-190		³ Lower Cleaner Bar
	141-105		⁴ Lower Cleaner Bar
	141-213		⁴ Lower Cleaner Bar
	141-107		⁵ Lower Cleaner Bar

Ref. No.	Part Number	Qty.	Description
14.	141-109	2	Rear Link
15.	141-132	1	⁵ Front Link
	141-211	1	⁶ Front Link
16.	141-215		4" Cleaner Shoe
	141-134		6" Cleaner Shoe
	141-135		8" Cleaner Shoe
	141-136		10" Cleaner Shoe
	141-137		12" Cleaner Shoe
	141-138		14" Cleaner Shoe
	141-139		16" Cleaner Shoe
17.	183-179	4	Pin
18.	105-065	2	⁴ Locknut (1/2-NC)
19.	106-033	4	Jam Nut (1-NC)
20.	105-472	2	Bolt (1/2-NC x 5")
21.	105-833	2	Flange Locknut (1/2-NC)
22.	141-200	1	⁶ Cleaner Support (for roller boom)
23.	106-033	2	⁸ Screw (1-NC x 6", SQ HD)

¹This part is used when support (ref. no. 9) is not counterbored.

²This part is used when support (ref. no. 9) is counterbored and support clamp (ref. no. 10) is not threaded.

³Replacement clamp bar (ref. no. 10) is threaded and uses support (ref. no. 9) that is counterbored and bolt (ref. no. 6) that is 4" long.

⁴This part is used when support (ref. no. 10) is not threaded. Replacement clamps will be threaded. See footnote 3.

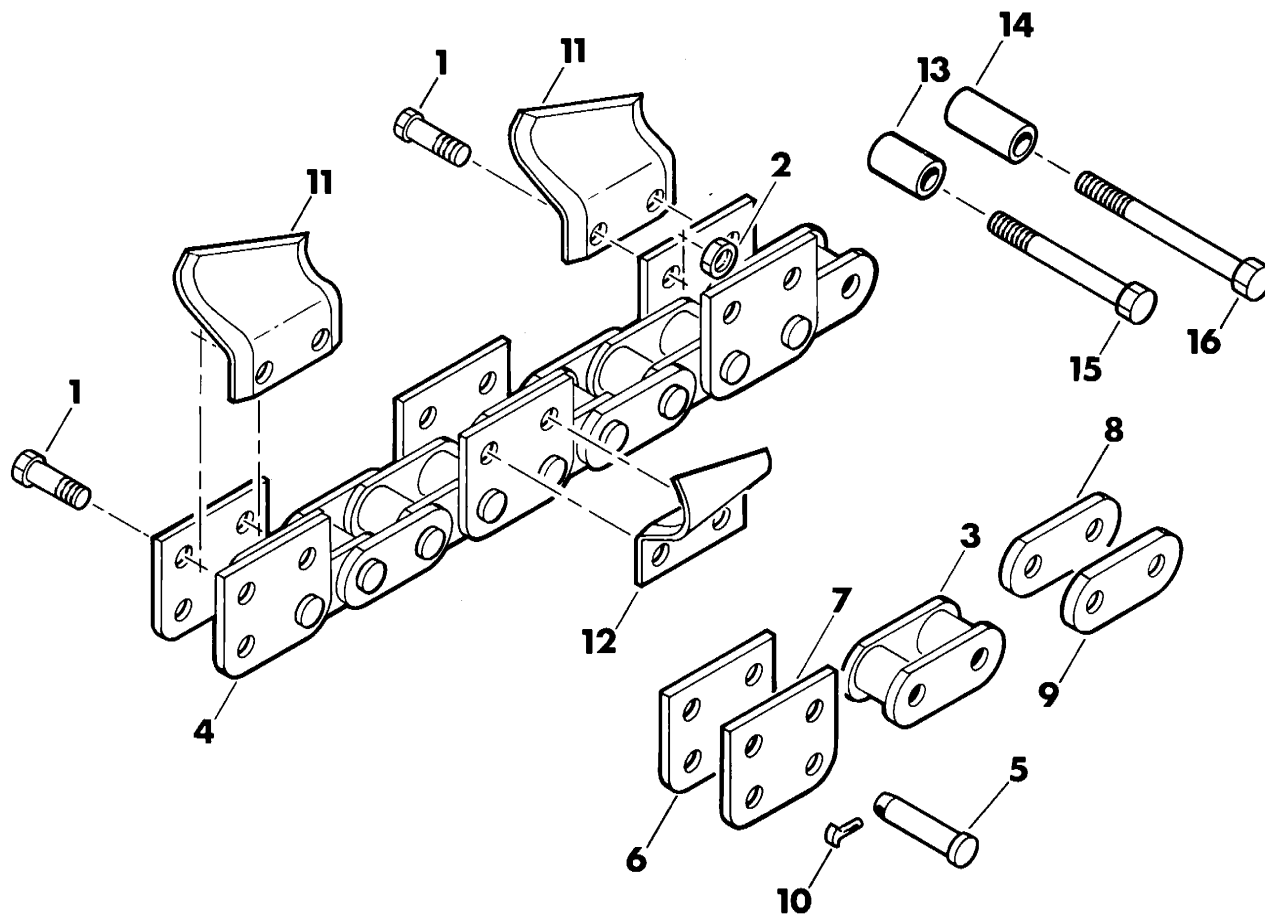
⁵Refer to installation diagram 050-926. These parts are associated with standard booms not roller and large tail sprocket booms.

⁶Refer to installation diagram 050-926. These parts are associated with roller and large tail sprocket booms. Cleaner support (ref. no. 22) is used for roller booms designed for bolt on cleaner supports.

⁷Early style cleaner support (ref. no. 9), with 3/4-NC threads, used screw (ref. no. 5).

⁸Present style cleaner support (ref. no. 9), with 1-NC threads, uses nuts and screw (ref. no.'s 19 and 23).

DIGGING CHAIN (50,000 LB TEST) 2.000" PITCH CHAIN—4 PITCH SPACING

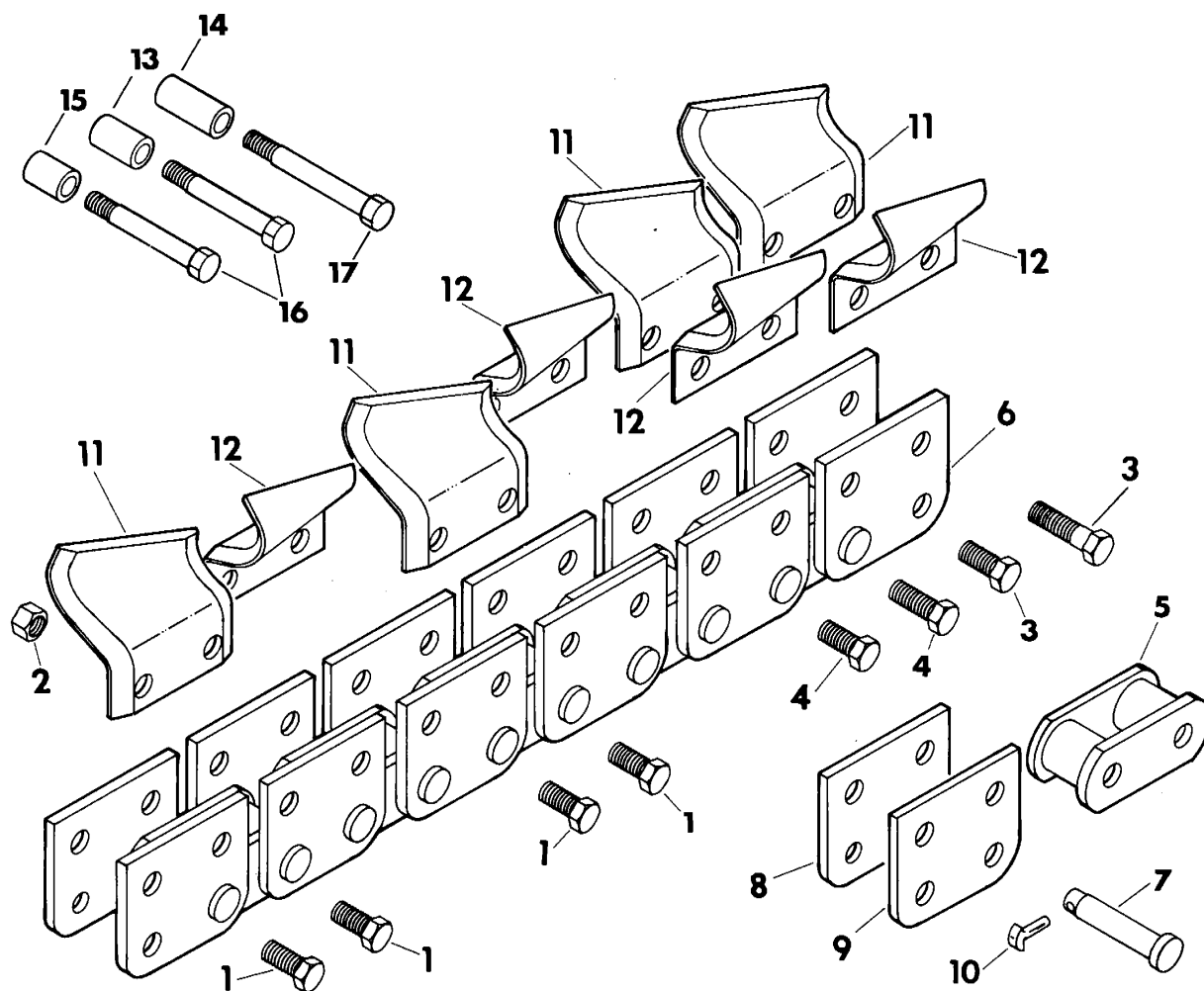


Ref. No.	Part Number	Qty.	Description
1.	105-043	AR	Bolt (1/2-NC x 1-1/4")
2.	105-065	AR	Locknut (1/2-NC)
3.	135-203	AR	Roller Link
4.	135-210	AR	2' Digging Chain (less teeth)
	135-213	AR	11'-4" Digging Chain (less teeth)
5.	135-351	AR	Chain Pin
6.	135-352	AR	Tooth Sidebar (key side)
7.	135-353	AR	Tooth Sidebar (head side)
8.	135-354	AR	Plain Sidebar (key side)

Ref. No.	Part Number	Qty.	Description
9.	135-355	AR	Plain Sidebar (head side)
10.	135-358	AR	Lock Key
11.	135-924	AR	Right Digging Tooth
12.	135-925	AR	Left Digging Tooth
13.	135-951	AR	Chain Spacer (used with one tooth inside)
14.	135-952	AR	Chain Spacer (used with teeth on outside)
15.	105-076	AR	Bolt (1/2-NC x 3")
16.	105-136	AR	Bolt (1/2-NC x 3-1/2")

NOTE: Refer to page entitled DIGGING CHAIN ADAPTERS (50,000 LB TEST) — 2.000" PITCH CHAIN for adapters required to make wider chains.

DIGGING CHAIN (50,000 LB TEST) 2.000" PITCH CHAIN—2 PITCH SPACING

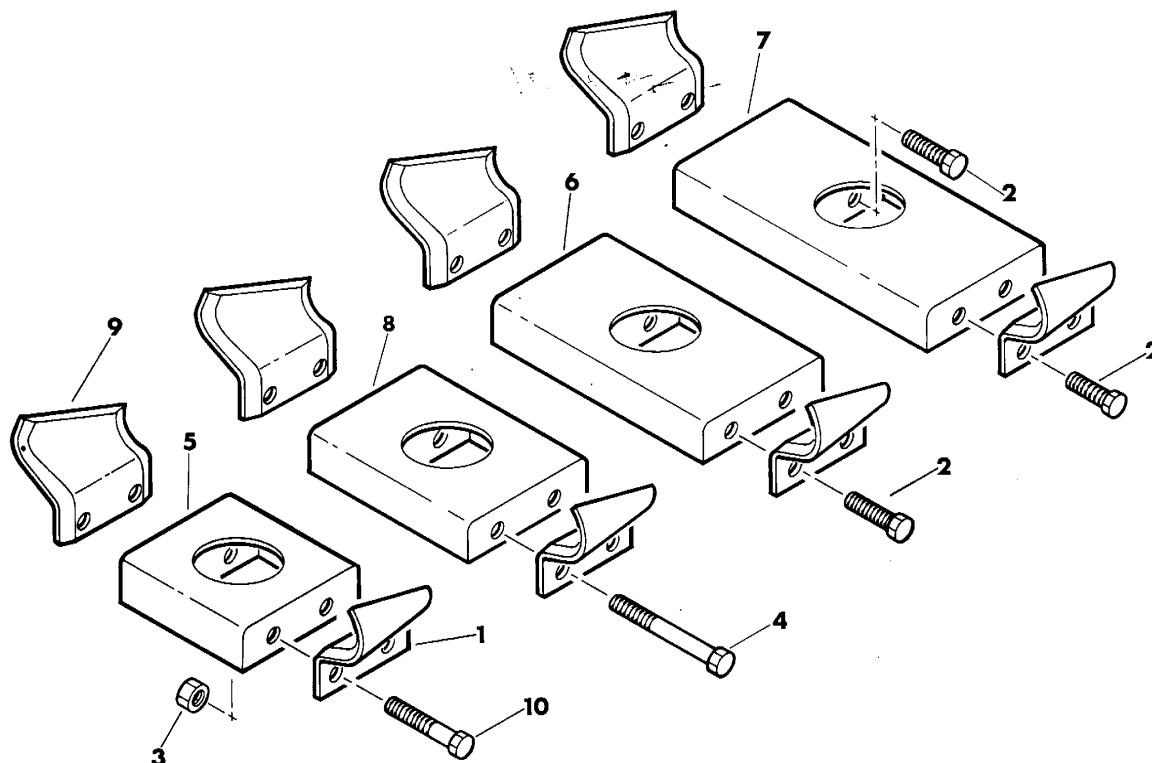


Ref. No.	Part Number	Qty.	Description
1.	105-043	AR	Bolt (1/2-NC x 1-1/4")
2.	105-065	AR	Locknut (1/2-NC)
3.	105-043	AR	Bolt (1/2-NC x 1-1/4")
4.	105-121	AR	Bolt (1/2-NC x 1")
5.	135-203	AR	Roller Link
6.	135-217	AR	2' Digging Chain (less teeth)
	135-218	AR	11' 4" Digging Chain (less teeth)
7.	135-351	AR	Chain Pin
8.	135-352	AR	Tooth Sidebar (key side)
9.	135-353	AR	Tooth Sidebar (head side)
10.	135-358	AR	Lock Key

Ref. No.	Part Number	Qty.	Description
11.	135-924	AR	Right Digging Tooth
12.	135-925	AR	Left Digging Tooth
13.	135-951	AR	Chain Spacer (used with one tooth inside)
14.	135-952	AR	Chain Spacer (used with one or two teeth outside)
15.	135-953	AR	Chain Spacer (used with two teeth inside)
16.	105-067	AR	Bolt (1/2-NC x 2-3/4")
17.	105-136	AR	Bolt (1/2-NC x 3-1/2")—used with 2 teeth outside
	105-300	AR	Bolt (1/2-NC x 3-1/4")—used with 1 tooth outside

DIGGING CHAIN ADAPTERS (50,000 LB TEST)

2.000" PITCH CHAIN

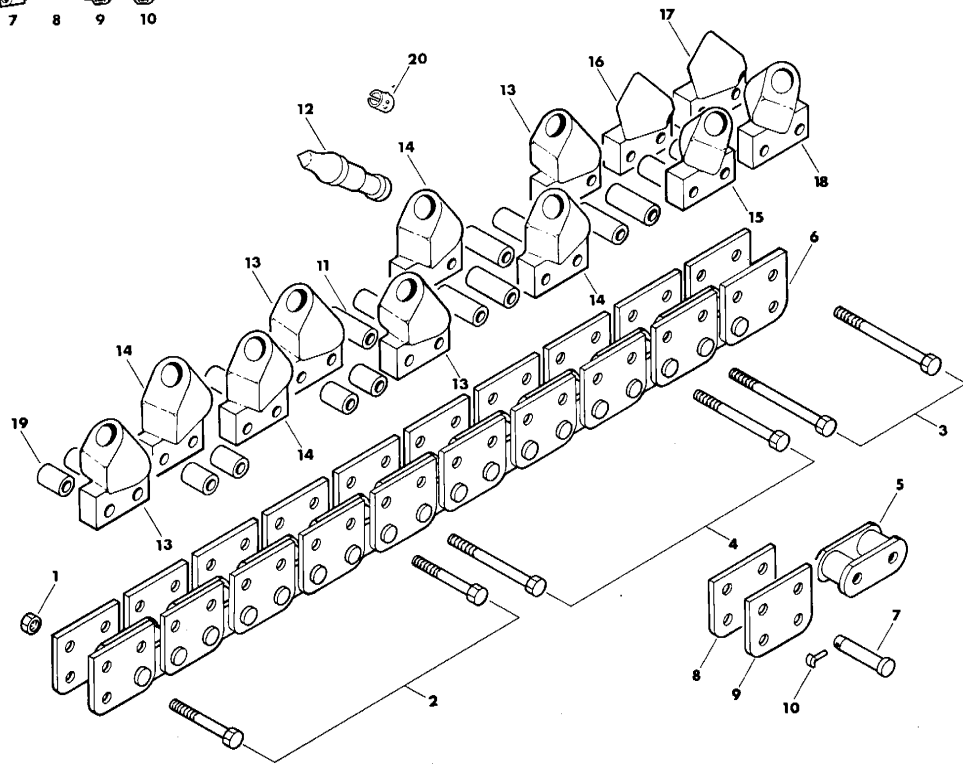
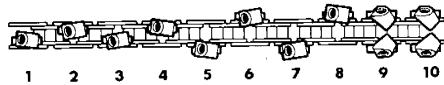


Ref. No.	Part Number	Qty.	Description
1.	135-925	AR	Left Digging Tooth
2.	105-043	AR	Bolt (1/2-NC x 1-1/4")
3.	105-065	AR	Locknut (1/2-NC)
4.	105-300	AR	Bolt (1/2-NC x 3-1/4")
5.	135-912	AR	Tooth Adapter (for 8" widths)

Ref. No.	Part Number	Qty.	Description
6.	135-913	AR	Tooth Adapter (for 12" widths)
7.	135-914	AR	Tooth Adapter (for 16" widths)
8.	135-950	AR	Tooth Adapter (for 10" widths)
9.	135-924	AR	Right Digging Tooth
10.	105-082	AR	Bolt (1/2-NC x 2-1/2")

ALLIGATOR CHAIN (50,000 LB TEST)

2.000" PITCH CHAIN—2 PITCH SPACING



Ref. No.	Part Number	Qty.	Description
1.	105-065	AR	Locknut (1/2-NC)
2.	105-076	AR	Bolt (1/2-NC x 3")
3.	105-110	AR	Bolt (1/2-NC x 4-1/2")
4.	105-111	AR	Bolt (1/2-NC x 4")
5.	135-203	AR	Roller Link
6.	135-218	1	11'-4" Chain (less adapters and bits)
7.	135-351	AR	Chain Pin
8.	135-352	AR	Tooth Sidebar (key side)
9.	135-353	AR	Tooth Sidebar (head side)
10.	135-358	AR	Lock Key
11.	135-952	AR	Chain Spacer (used with one or two bit adapters on outside)
12.	135-958	AR	1 Carbide Cap Bit (Incl. ref. no. 20)
	136-100	AR	Carbide Cap Bit (Incl. ref. no. 20)
	135-959	AR	1 Carbide Insert Bit (Incl. ref. no. 20)
	136-101	AR	Carbide Insert Bit (Incl. ref. no. 20)
	136-058	AR	1 Heavy Duty Carbide Insert Bit (Incl. ref. no. 20)
	136-102	AR	Heavy Duty Carbide Insert Bit (Incl. ref. no. 20)

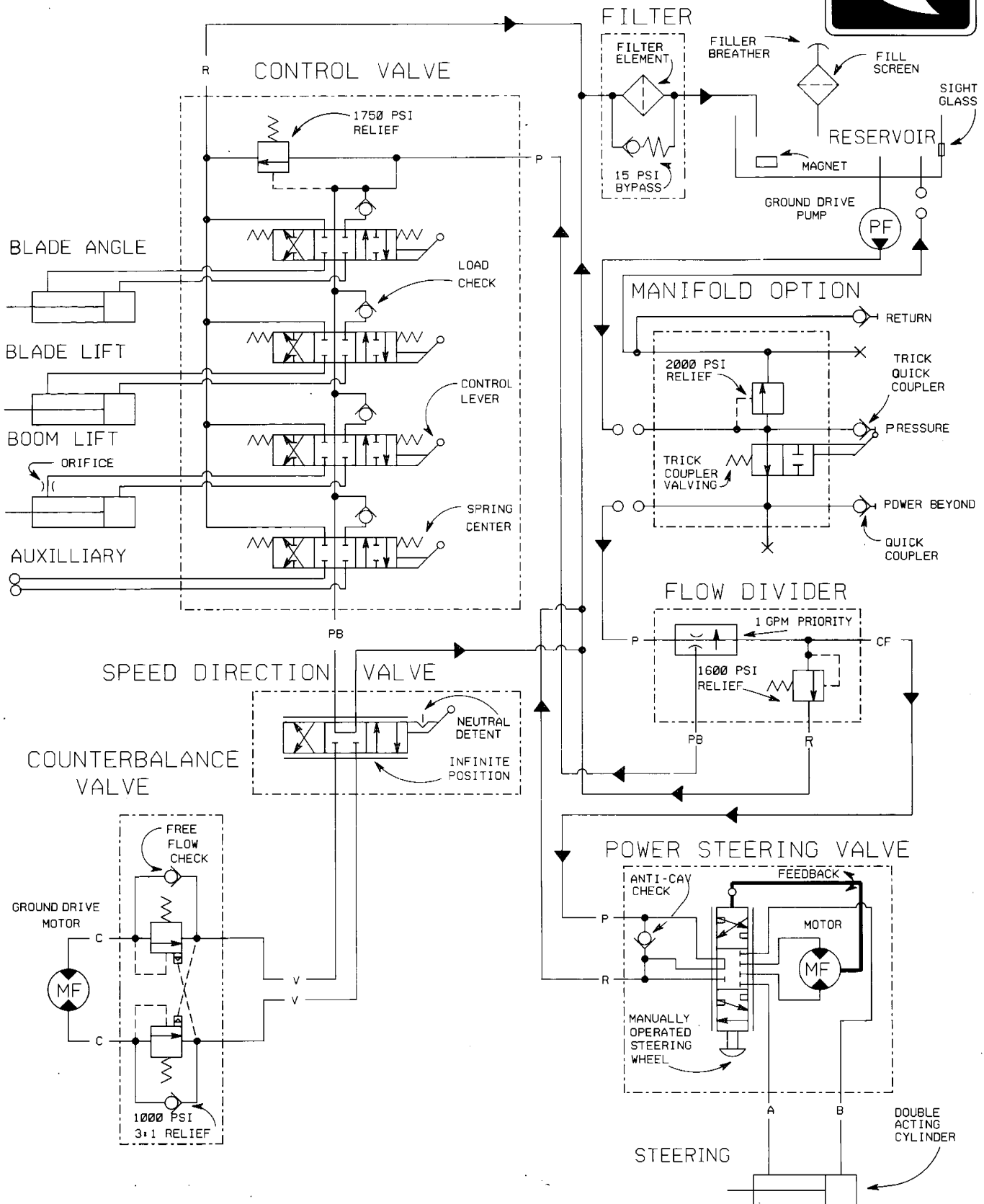
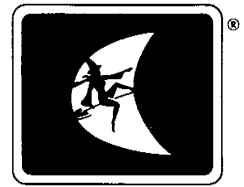
Ref. No.	Part Number	Qty.	Description
13.	136-036	AR	No. 1 Bit Adapter
14.	136-037	AR	No. 2 Bit Adapter
15.	136-038	AR	No. 3 Bit Adapter
16.	136-039	AR	No. 4 Bit Adapter
17.	136-040	AR	No. 5 Bit Adapter
18.	136-041	AR	No. 6 Bit Adapter
19.	136-043	AR	Chain Spacer (used with bit adapter inside)
20.	136-008	AR	Bit Retainer Ring

Not Shown:

259-001	Hammer Type Bit Puller
259-002	Sliding Hammer Type Bit Puller

¹These bits may be directly replaced by corresponding available bits.

HYDRAULIC SCHEMATIC FOR MODEL 2300



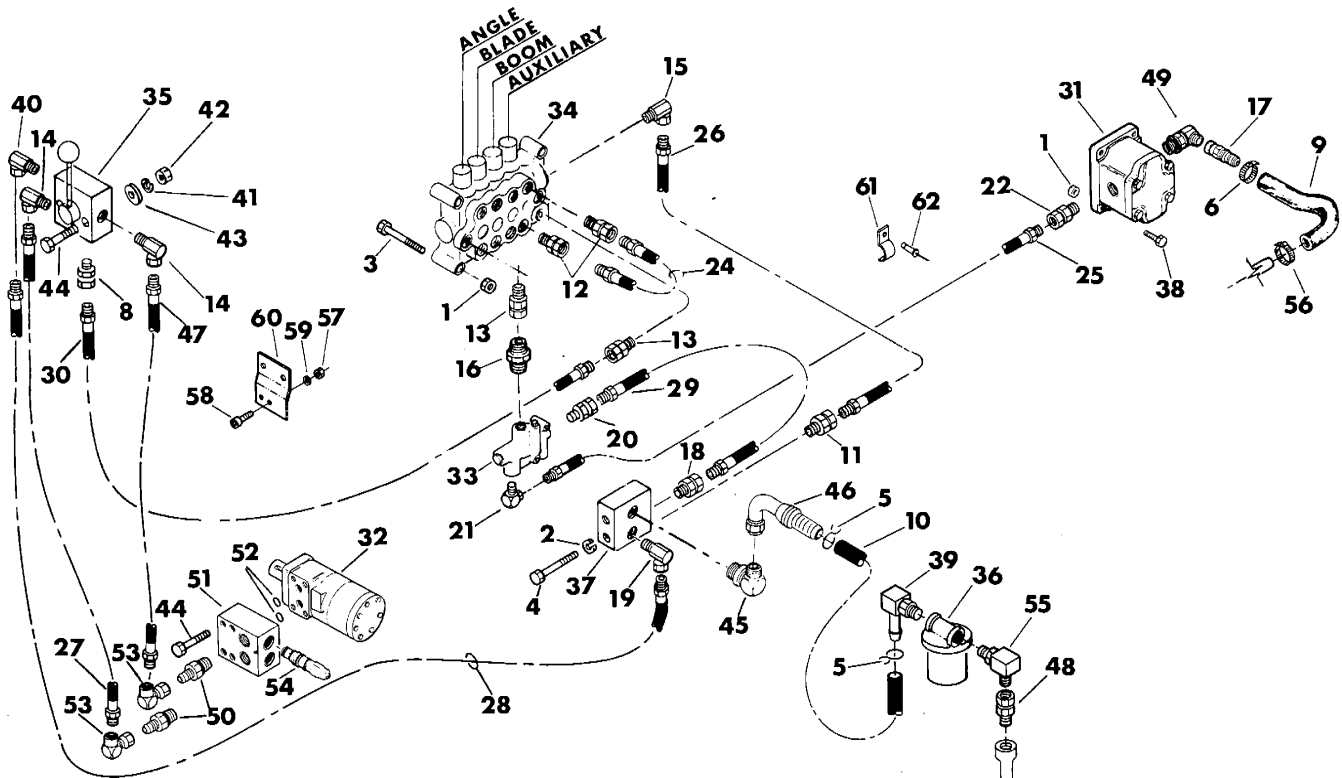
NOTE: Reference numbers refer to connections on attachment hydraulic schematics.
A. Add counterbalance valve S/N 302100.
B. Add manifold return S/N 3B0843.

SPECIFICATIONS

ENGINE		PUMP				MOTOR	
MFG (No Load)	RPM	TYPE	RPM	GPM	DISPLACEMENT	TYPE	DISPLACEMENT
Deutz (Diesel)	2550	Ground Drive	2550	8.0	.73 in. ³	Ground Drive	17.9 in. ³
Wisconsin (Gas)	2550	Ground Drive	2550	9.3	.85 in. ³	Steering	6.2 in. ³
						Ground Drive	17.9 in. ³
						Steering	6.2 in. ³

PUMP and VALVE HYDRAULICS

DEUTZ ENGINE



NOTE: This page applies to machines that have pipe threads on return manifold; SAE threads on main control valve, oil filter, speed control valve, flow divider and hydraulic pump; and a counterbalance manifold on the hydraulic motor.

Ref. No.	Part Number	Qty.	Description
1.	105-047	6	Locknut (3/8-NC)
2.	105-072	2	Lock Washer (3/8")—early models
	105-886	1	Washer (3/8")
3.	105-098	4	Bolt (3/8-NC x 3")
4.	105-181	2	Bolt (3/8-NC x 1 1/2")—early models
	105-825	2	Flange Lock Bolt (3/8-NC x 3/4")
5.	110-213	2	Hose Clamp (1-3/8")—early models
	110-133	2	Hose Clamp (1-1/16" to 1-15/16")
6.	110-026	1	Hose Clamp (1/2" to 1-1/4")—early models
	110-353	1	Hose Clamp (3/4" to 1-1/2")
7.	115-158	1	Pipe Plug (3/8")
8.	155-040	1	Adapter Union (3/4-SAE x 1/2", STR)
	155-706		O-Ring (-908)
9.	116-159	1	Hose (3/4" ID x 6-1/4" LG)
10.	116-094	1	Hose (1" ID)—use 18"
11.	155-013	1	Adapter Union (3/4" x 3/4", STR)
12.	155-026	2	³ Adapter Union (9/16-SAE x 1/4", STR)
	155-705		O-Ring (-906)
	154-032	2	⁴ Adapter Connector (9/16-SAE M x 7/16-JIC M, STR)
	155-705		O-Ring (-906)

Ref. No.	Part Number	Qty.	Description
13.	155-083	2	Adapter Union (1-1/16-SAE x 1/2", STR)
	155-709		O-Ring (-912)
14.	155-064	2	Adapter Union (3/4-SAE x 1/2" x 90°)
	155-706		O-Ring (-908)
15.	155-066	1	Adapter Union (1-1/16-SAE x 3/4" x 90°)
	155-709		O-Ring (-912)
16.	155-105	1	Adapter Nipple (7/8-SAE x 1/2", STR)
	155-707		O-Ring (-910)
17.	154-174	1	Slip-On Coupler (1-1/16-JIC FM x 7/8" OD, STR)
18.	155-057	1	Adapter Union (3/8" x 3/8", STR)
19.	155-060	1	Adapter Union (1/2" x 1/2" x 90°, XLG)
20.	155-102	1	Adapter Union (9/16-SAE x 3/8", STR)
	155-705		O-Ring (-906)
21.	155-089	1	Adapter Union (7/8-SAE M x 1/2-NPT FM x 90°)—early models
	155-707		O-Ring (-910)
	155-110	1	Adapter Union (7/8-SAE M x 1/2-NPT FM x 45°)

(Continued on following page.)

PUMP and VALVE HYDRAULICS (Cont'd.)

DEUTZ ENGINE

Ref. No.	Part Number	Qty.	Description
22.	155-037	1	Adapter Union (7/8-SAE M x 1/2-NPT FM, STR)—early models
	155-707		O-Ring (-910)
	155-110	1	Adapter Union (7/8-SAE M x 1/2-NPT FM x 45°)
	155-707		O-Ring (-910)
23.	110-130	1	Magnet
24.	155-322	1	Hose (1/4-NPT M x 12", 2750 PSI)
25.	155-363	1	Hose (1/2-NPT M x 40", 2000 PSI)—early models
	155-360	1	Hose (1/2-NPT M x 31", 2000 PSI)
26.	155-432	1	Hose (3/4-NPT M x 19", 1250 PSI)
27.	155-350	2	Hose (1/2-NPT M x 16", 2000 PSI)
28.	155-436	1	Hose (1/2-NPT M x 61", 2000 PSI)
29.	155-334	1	Hose (3/8-NPT M x 21", 2250 PSI)
30.	155-437	1	Hose (1/2-NPT M x 68", 2000 PSI)
31.	155-544	1	Hydraulic Pump
32.	155-568	1	Hydraulic Motor
33.	155-602	1	Flow Divider
34.	155-620	1	Control Valve (less handles)
35.	155-655	1	Speed Control Valve
36.	155-930	1	Hydraulic Oil Filter (SAE)
	155-910		Element
37.	155-916	1	Return Manifold (NPT)
38.	105-052	2	Bolt (3/8-NC x 1-1/4")
39.	155-146	1	Slip-On Coupler (1-1/16-SAE M x 1" OD x 90°)
	155-709		O-Ring (-912)
40.	~~155-181~~	1	Adapter Union (3/4-SAE M x 1/2-NPT FM x 90°, XLG)
	155-022	1	Adapter Union (1/2-NPT x 1/2-NPT x 90°)
	155-040	1	Adapter Union (3/4-SAE x 1/2-NPT, STR)
	155-706		O-Ring (-908)
41.	105-091	2	Lock Washer (5/16")
42.	105-092	2	Nut (5/16-NC)
43.	105-117	2	Washer (5/16")
44.	105-130	2	Bolt (5/16-NC x 2-1/4")

Ref. No.	Part Number	Qty.	Description
45.	154-001	1	Adapter Connector (3/4-NPT x 1-5/16-JIC x 90°)
46.	154-002	1	Slip-On Coupler (1-5/16-JIC M x 1" OD x 90°)
47.	155-375	2	Hose (1/2-NPT x 9", 2000 PSI)
48.	154-144	1	Adapter Connector (1-1/16-SAE M x 1-1/16-JIC FM, STR)
49.	154-014	2	Adapter Connector (1-1/16-SAE M x 1-1/16-JIC M x 90°)
	155-709		O-Ring (-912)
50.	154-031	2	Adapter Connector (3/4-JIC x 7/8-SAE, STR)
	155-707		O-Ring (-910)
51.	159-011	1	Counterbalance Manifold
52.	155-772	2	O-Ring (-112)
53.	154-010	2	Adapter Union (3/4-JIC x 1/2" x 90°)
54.	500-372	2	Counterbalance Cartridge
	500-373		Seal Kit
55.	154-014	2	Adapter Connector (1-1/16-SAE M x 1-1/16-JIC M x 90°)
	155-709		O-Ring (-912)
56.	110-133	1	Hose Clamp (1-1/16" to 1-15/16")
57.	105-215	2	² Nut (No. 6-32)
58.	105-216	2	² Bolt (No. 6-32 x 1-1/4", SKT BUT HD)
59.	195-418	2	² Lock Washer (No. 10)
60.	363-026	1	² Switch Bracket
61.	110-097	1	Clamp (1/2")
62.	110-253	1	Pop Rivet

¹These two fittings replace extra-long single fitting.

²Switch bracket and hardware (ref. no.'s 57 thru 60) are used when unit is equipped with crowd safety switch.

³Ends with S/N 3D0314.

⁴Begins with S/N 3D0315.

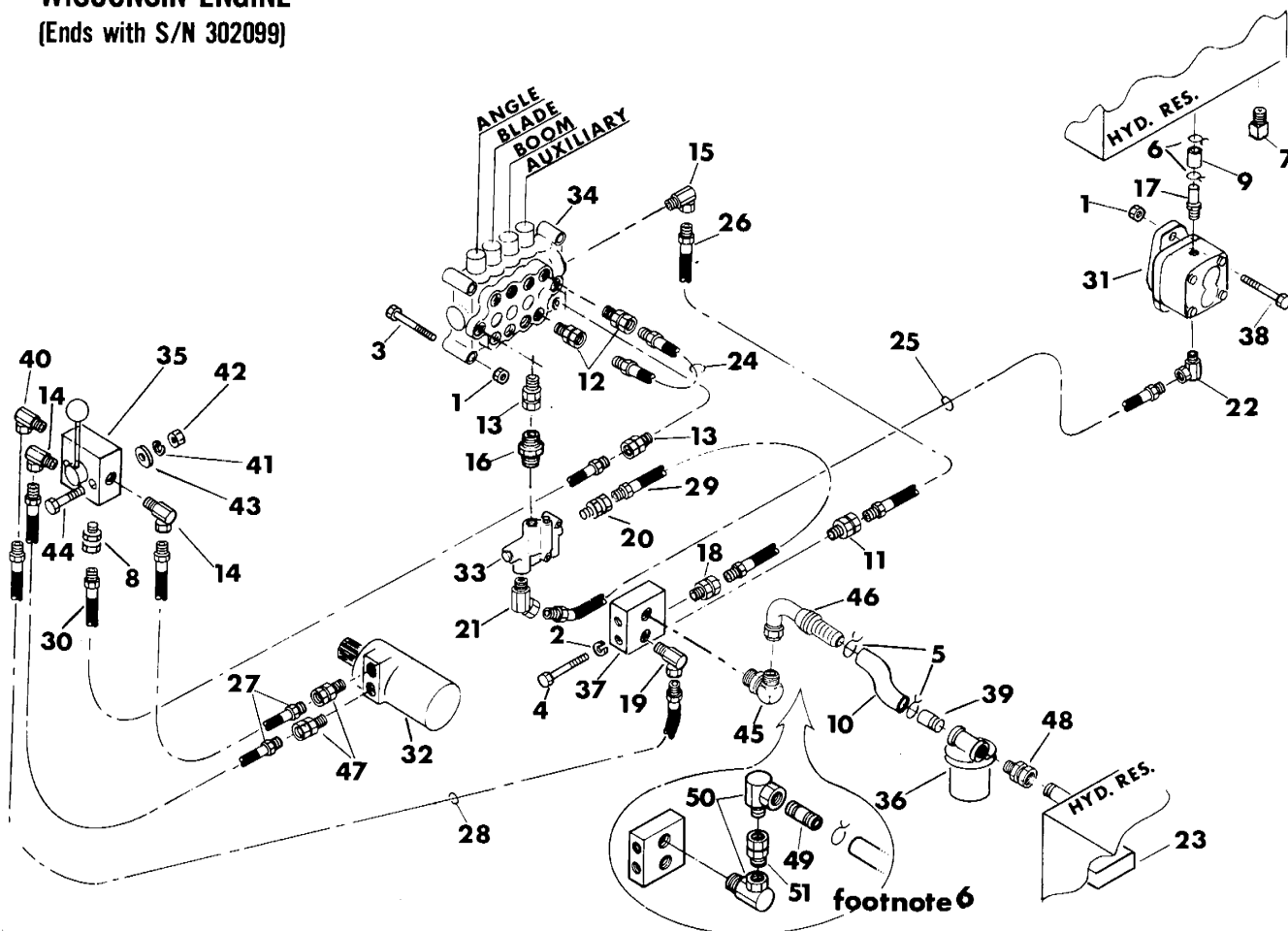
NOTE: Refer to page entitled OPTIONAL MANIFOLD HYDRAULICS and installation diagram 050-953 for optional manifold.

PUMP and VALVE HYDRAULICS

WISCONSIN ENGINE

(Ends with S/N 302099)

<https://truckmanualshub.com/>



NOTE: This page applies to machines that have pipe threads on return manifold and either pipe or SAE threads on hydraulic motor, main control valve, oil filter, speed control valve, flow divider and hydraulic pump.

Ref. No.	Part Number	Qty.	Description
1.	105-047	6	Locknut (3/8-NC)
2.	105-072	2	Lock Washer (3/8")
3.	105-098	4	Bolt (3/8-NC x 3")
4.	105-181	2	Bolt (3/8-NC x 1/2")
5.	110-213	2	Hose Clamp (1-3/8")—early models
	110-133	2	Hose Clamp (1-1/16" to 1-15/16")
6.	110-026	2	Hose Clamp (1/2" to 1-1/4")
7.	115-158	1	Pipe Plug (3/8")
8.	155-040	1	Adapter Union (3/4-SAE x 1/2", STR)
	155-706		O-Ring (-908)
9.	115-374	1	Hose (3/4" ID)—use 2"
10.	116-094	1	³ Hose (1" ID)—use 17.5"
	116-094	1	⁴ Hose (1" ID)—use 15.5"
11.	155-013	1	Adapter Union (3/4" x 3/4", STR)
12.	155-026	2	Adapter Union (9/16-SAE x 1/4", STR)
	155-705		O-Ring (-906)

Ref. No.	Part Number	Qty.	Description
13.	155-083	2	Adapter Union (1-1/16-SAE x 1/2", STR)
	155-709		O-Ring (-912)
14.	155-064	2	Adapter Union (3/4-SAE x 1/2" x 90°)
	155-706		O-Ring (-908)
15.	155-066	1	Adapter Union (1-1/16-SAE x 3/4" x 90°)
	155-709		O-Ring (-912)
16.	155-105	1	Adapter Connector (7/8-SAE x 1/2", STR)
	155-707		O-Ring (-910)
17.	155-046	1	Slip-On Coupler (1-1/16-SAE M x 3/4" OD, STR)
	155-709		O-Ring (-912)
18.	155-057	1	Adapter Union (3/8" x 3/8", STR)
19.	155-060	1	Adapter Union (1/2" x 1/2" x 90°, XLG)

(Continued on following page.)

PUMP and VALVE HYDRAULICS (Cont'd.)**WISCONSIN ENGINE**

(Ends with S/N 302099)

Ref. No.	Part Number	Qty.	Description
20.	155-102	1	Adapter Union (9/16- ¹ SAE x 3/8", STR)
	155-705		O-Ring (-906)
21.	155-110	1	Adapter Union (7/8- ¹ SAE x 1/2" x 45°)
	155-707		O-Ring (-910)
22.	155-043	1	Adapter Union (3/4- ¹ SAE x 1/2" x 45°)
	155-706		O-Ring (-908)
23.	110-130	1	Magnet
24.	155-322	1	Hose (1/4" x 12", 2750 PSI)
25.	155-363	1	Hose (1/2" x 40", 2000 PSI)
26.	155-432	1	Hose (3/4" x 19", 1250 PSI)
27.	155-350	2	Hose (1/2" x 16", 2000 PSI)
28.	155-436	1	Hose (1/2" x 61", 2000 PSI)
29.	155-364	1	Hose (3/8" x 21", 2250 PSI)
30.	155-437	1	Hose (1/2" x 68", 2000 PSI)
31.	155-507	1	Hydraulic Pump
32.	~~155-551~~	1	¹ Hydraulic Motor (NPT)
	155-570	1	² Hydraulic Motor (SAE)
33.	155-602	1	Flow Divider
34.	155-620	1	Control Valve (less handles)
35.	155-655	1	Speed Control Valve
36.	N.A.	1	³ Hydraulic Oil Filter (NPT)
	155-930	1	⁴ Hydraulic Oil Filter (SAE)
	155-910		Element
37.	155-916	1	Return Manifold (NPT)
38.	105-052	2	Bolt (3/8-NC x 1-1/4")
39.	155-170	1	⁵ Slip-On Coupler (3/4-NPT M x 1" OD, STR)
	155-161	1	⁴ Slip-On Coupler (1-1/16- ¹ SAE M x 1" OD, STR)
	155-709		O-Ring (-912)

Ref. No.	Part Number	Qty.	Description
40.	~~155-131~~	1	⁵ Adapter Union (1/2-NPT x 1/2-NPT x 90°)
	155-022	1	⁵ Adapter Union (1/2-NPT x 1/2-NPT x 90°)
	155-040	1	⁵ Adapter Union (3/4- ¹ SAE x 1/2", STR)
	155-706		O-Ring (-908)
41.	105-091	2	Lock Washer (5/16")
42.	105-092	2	Nut (5/16-NC)
43.	105-117	2	Washer (5/16")
44.	105-130	2	Bolt (5/16-NC x 2-1/4")
45.	154-001	1	⁷ Adapter Connector (3/4-NPT x 1-5/16-JIC x 90°)
46.	154-002	1	⁷ Slip-On Coupler (1-5/16-JIC FM x 1" OD x 90°)
47.	155-037	2	² Adapter Union (7/8- ¹ SAE x 1/2", STR)
	155-707		O-Ring (-910)
48.	155-068	1	⁴ Adapter Union (1-1/16- ¹ SAE x 3/4", STR)
	155-709		O-Ring (-912)
49.	~~115-143~~	1	⁶ Pipe Nipple (3/4-NPT M x 2" LG)
	155-170	1	⁶ Slip-On Coupler (3/4-NPT M x 1" OD, STR)—replacement
50.	155-058	2	⁶ Adapter Union (3/4-NPT M x 3/4-NPT FM x 90°)
51.	155-013	1	⁶ Adapter Union (3/4-NPT M x 3/4-NPT FM, STR)

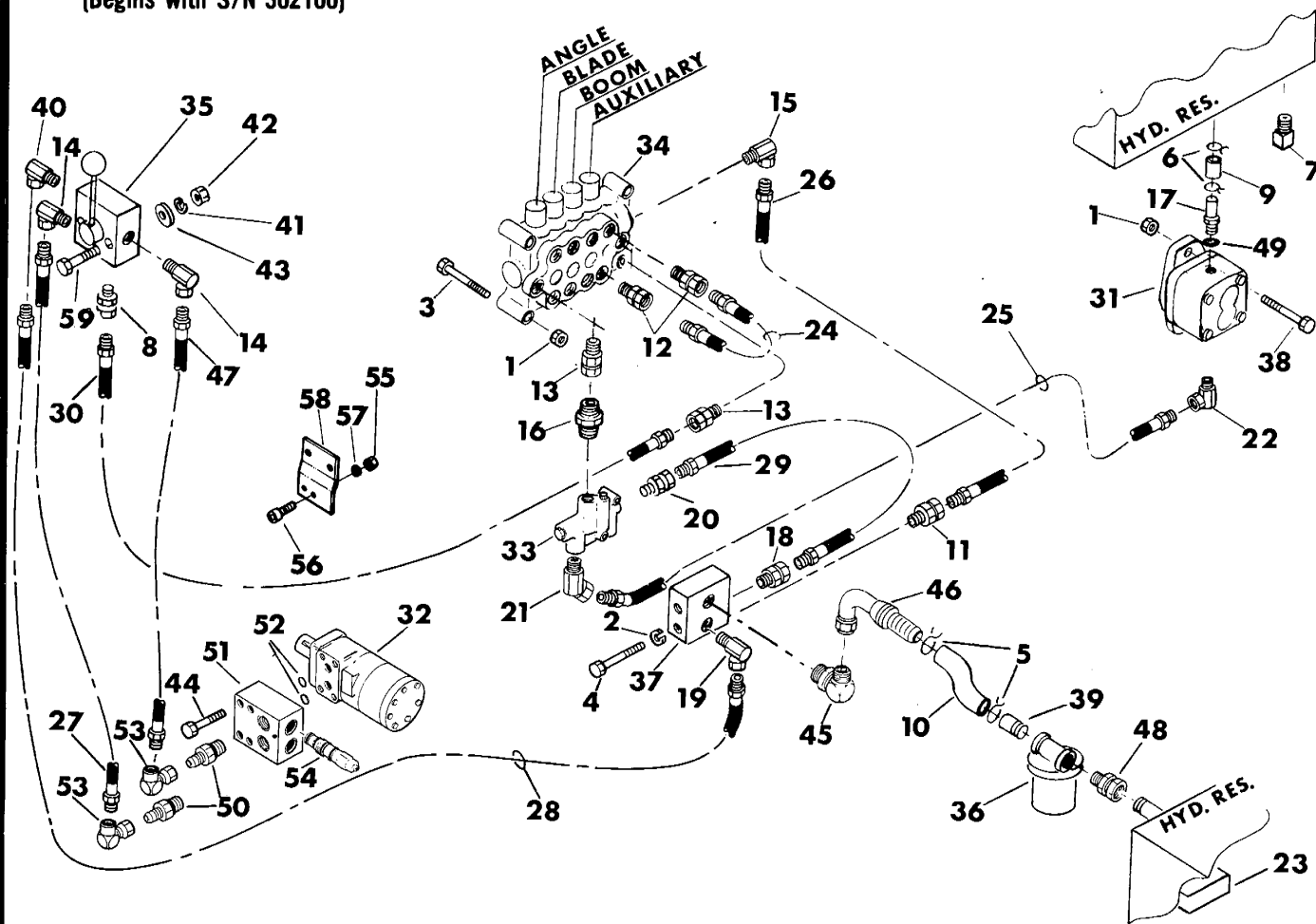
¹Ends with S/N 301478. Replace hydraulic motor with NPT threads with motor and new fitting with SAE threads (ref. no. 47).²Begins with S/N 301479 and replacement hydraulic motors with SAE threads.³Ends with S/N 301509. Replace oil filter with NPT threads with filter and fittings with SAE threads (ref. no.'s 39 and 48).⁴Begins with S/N 301510 and replacement hydraulic oil filters with SAE threads.⁵These two fittings replace extra-long single fitting.⁶Ends with S/N 300175. These fittings (ref. no.s 49 thru 51) may be replaced by fittings (ref. no.'s 45 and 46).⁷Begins with S/N 300176.

NOTE: Refer to OPTIONAL MANIFOLD HYDRAULICS and installation diagram 050-953 for optional manifold.

PUMP and VALVE HYDRAULICS

WISCONSIN ENGINE

(Begins with S/N 302100)



NOTE: This page applies to machines that have pipe threads on return manifold; SAE threads on main control valve, oil filter, speed control valve, flow divider and hydraulic pump; and a counterbalance manifold on the hydraulic motor.

Ref. No.	Part Number	Qty.	Description
1.	105-047	6	Locknut (3/8-NC)
2.	105-072	2	Lock Washer (3/8")—early models
	105-886	2	Washer (3/8")
3.	105-098	4	Bolt (3/8-NC x 3")
4.	105-181	2	Bolt (3/8-NC x 1/2")—early models
	105-825	2	Flange Lock Bolt (3/8-NC x 3/4")
5.	110-213	2	Hose Clamp (1-3/8")—early models
	110-133	2	Hose Clamp (1-1/16" to 1-15/16")
6.	110-026	2	Hose Clamp (1/2" to 1-1/4")—early style
	110-353	2	Hose Clamp (3/4" to 1-1/2")
7.	115-158	1	Pipe Plug (3/8")
8.	155-040	1	Adapter Union (3/4-SAE x 1/2", STR)
	155-706		O-Ring (-908)
9.	115-374	1	Hose (3/4" ID)—use 2"

Ref. No.	Part Number	Qty.	Description
10.	116-094	1"	Hose (1" ID)—use 15-1/2"
11.	155-013	1	Adapter Union (3/4" x 3/4", STR)
12.	155-026	2	Adapter Union (9/16-SAE x 1/4", STR)
	155-705		O-Ring (-906)
13.	155-083	2	Adapter Union (1-1/16-SAE x 1/2", STR)
	155-709		O-Ring (-912)
14.	155-064	2	Adapter Union (3/4-SAE x 1/2" x 90°)
	155-706		O-Ring (-908)
15.	155-066	1	Adapter Union (1-1/16-SAE x 3/4" x 90°)
	155-709		O-Ring (-912)
16.	155-105	1	Adapter Nipple (7/8-SAE x 1/2", STR)
	155-707		O-Ring (-910)

(Continued on following page.)

PUMP and VALVE HYDRAULICS (Cont'd.)

WISCONSIN ENGINE

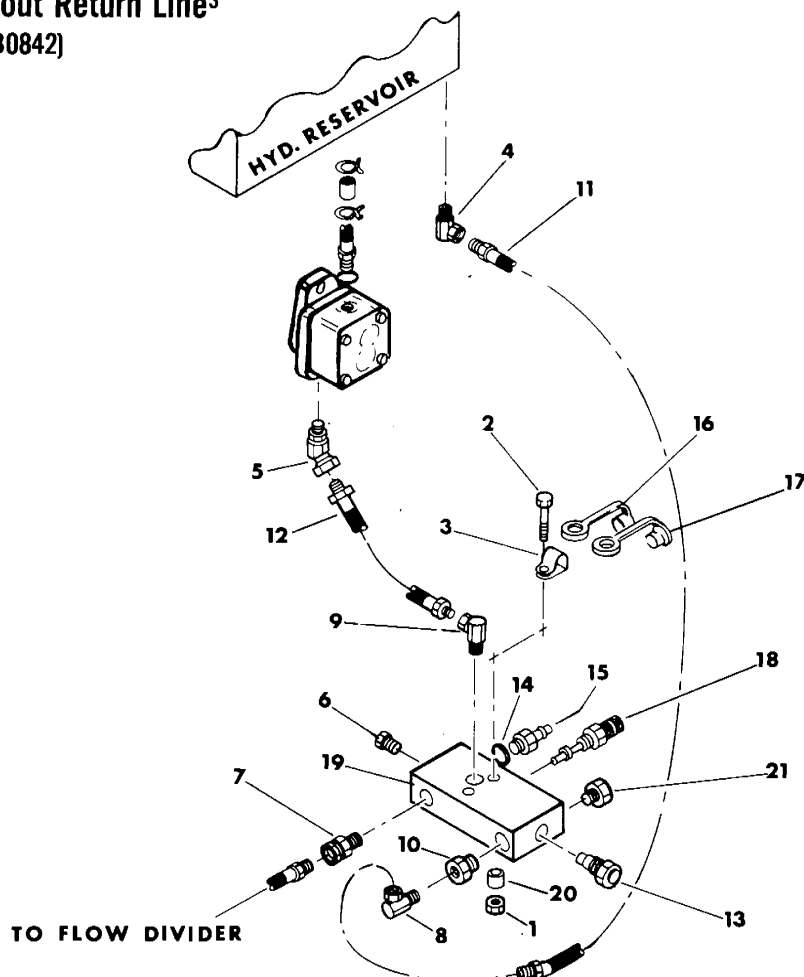
(Begins with S/N 302100)

Ref. No.	Part Number	Qty.	Description	Ref. No.	Part Number	Qty.	Description
17.	155-046	1	Slip-On Coupler (1-1/16- SAE M x 3/4" OD, STR)	41.	105-091	2	Lock Washer (5/16")—early models
	155-709		O-Ring (-912)	42.	105-092	2	Nut (5/16-NC)—early models
18.	155-057	1	Adapter Union (3/8" x 3/8", STR)		105-834	2	Flange Locknut (3/8-NC)
19.	155-060	1	Adapter Union (1/2" x 1/2" x 90°, XLG)	43.	105-117	2	Washer (5/16")—early models
20.	155-102	1	Adapter Union (9/16- SAE x 3/8", STR)	44.	105-130	4	Bolt (5/16-NC x 2-1/4")
	155-705		O-Ring (-906)	45.	154-001	1	Adapter Connector (3/4-NPT x 1-5/16-JIC x 90°)
21.	155-110	1	Adapter Union (7/8- SAE x 1/2" x 45°)	46.	154-002	1	Slip-On Coupler (1-5/16-JIC FM x 1" OD x 90°)
	155-707		O-Ring (-910)	47.	155-375	1	Hose (1/2-NPT M x 9", 2000 PSI)
22.	155-043	1	Adapter Union (3/4- SAE x 1/2" x 45°)	48.	155-068	1	Adapter Union (1-1/16- SAE x 3/4", STR)
	155-706		O-Ring (-908)		155-709		O-Ring (-912)
23.	110-130	1	Magnet	49.	155-709	1	O-Ring (-912)
24.	155-322	1	Hose (1/4" x 12", 2750 PSI)	50.	154-031	2	Adapter Connector (3/4-JIC x 7/8- SAE , STR)
25.	155-363	1	Hose (1/2" x 40", 2000 PSI)		155-707		O-Ring (-910)
26.	155-432	1	Hose (3/4" x 19", 1250 PSI)	51.	159-011	1	Counterbalance Manifold (Incl. ref. no. 52)
27.	155-350	2	Hose (1/2" x 16", 2000 PSI)	52.	155-772	2	O-Ring (-112)
28.	155-436	1	Hose (1/2" x 61", 2000 PSI)	53.	154-010	2	Adapter Union (3/4-JIC x 1/2" x 90°)
29.	155-364	1	Hose (3/8" x 21", 2250 PSI)	54.	500-372	2	Counterbalance Cartridge
30.	155-437	1	Hose (1/2" x 68", 2000 PSI)		500-373		Seal Repair Kit
31.	155-507	1	Hydraulic Pump	55.	105-215	2	² Nut (No. 6-32)
32.	155-568	1	Hydraulic Motor	56.	105-216	2	² Bolt (No. 6-32 x 1-1/4", SKT BUT HD)
33.	155-602	1	Flow Divider	57.	195-418	2	² Lock Washer (No. 10)
34.	155-620	1	Control Valve (less handles)	58.	363-026	1	² Switch Bracket
35.	155-655	1	Speed Control Valve	59.	105-130	2	Bolt (5/16-NC x 2-1/4")—early models
36.	155-930	1	Hydraulic Oil Filter (SAE)		105-162	2	Bolt (3/8-NC x 2-1/4")
	155-910		Element	¹ These two fittings replace extra-long single fitting. ² Switch bracket and hardware (ref. no.'s 55 thru 58) are used when unit is equipped with crowd safety switch. NOTE: Refer to OPTIONAL MANIFOLD HYDRAULICS and installation diagram 050-953 for optional manifold.			
37.	155-916	1	Return Manifold (NPT)				
38.	105-052	2	Bolt (3/8-NC x 1-1/4")				
39.	155-161	1	Slip-On Coupler (1-1/16- SAE M x 1" OD, STR)				
	155-709		O-Ring (-912)				
40.	155-131	1	¹ Adapter Union (3/4- SAE M x 1/2-NPT FM x 90°, XLG)				
	155-022	1	¹ Adapter Union (1/2-NPT x 1/2-NPT x 90°)				
	155-040	1	¹ Adapter Union (3/4- SAE x 1/2", STR)				
	155-706		O-Ring (-908)				

OPTIONAL MANIFOLD HYDRAULICS

For A220 without Return Line³

(Ends with S/N 3B0842)



Ref. Part
No. Number Qty. Description

1.	105-814	2	Flange Locknut (3/8-NC)
2.	105-207	2	Bolt (3/8-NC x 4-1/4")
3.	110-126	1	Wire Clamp
4.	155-006	1	Adapter Union (3/8" x 3/8" x 90°)—Wisc.
	155-012	1	Adapter Union (3/8" x 3/8" x 45°)—Deutz
5.	155-064	1	Adapter Union (3/4- ¹ SAE M x 1/2-NPT FM x 90°)—early style on Wisc.
	155-706		O-Ring (-908)
	155-043	1	Adapter Union (3/4- ¹ SAE M x 1/2-NPT FM x 45°)—Wisc.
	155-706		O-Ring (-908)
6.	155-074	1	Plug (3/4- ¹ SAE)
	155-706		O-Ring (-908)
7.	155-083	1	Adapter Union (1-1/16- ¹ SAE x 1/2", STR)—Wisc.
	155-709		O-Ring (-912)
	155-134	1	Adapter Union (1-1/16- ¹ SAE x 1/2" x 45°)—Deutz
	155-709		O-Ring (-912)
8.	155-103	1	Adapter Union (9/16- ¹ SAE x 3/8" x 90°)
	155-705		O-Ring (-906)
9.	155-106	1	Adapter Union (1-1/16- ¹ SAE x 1/2" x 90°)
	155-709		O-Ring (-912)
10.	155-129	1	Adapter Bushing (1-1/16- ¹ SAE M x 9/16- ¹ SAE FM, STR)
	155-709		O-Ring (-912)

Ref. Part
No. Number Qty. Description

11.	155-305	1	Hose (3/8-NPT M x 14", 250 PSI)—Wisc.
	155-310	1	¹ Hose (3/8-NPT M x 27", 2250 PSI)—Deutz
	155-304	1	² Hose (3/8-NPT M x 24", 250 PSI)—Deutz
12.	155-426	1	Hose (1/2-NPT M x 7-1/2", 3500 PSI)—used on early Wisc.
	155-350	1	Hose (1/2-NPT M x 16", 2000 PSI)—Wisc.
	155-360	1	Hose (1/2-NPT M x 31", 2000 PSI)
13.	155-630	1	Relief Cartridge
	155-749		O-Ring (-023)
	155-750		O-Ring (-022)
14.	155-709	1	O-Ring (-912)
15.	155-933	1	Quick Coupler Adapter (1-1/16- ¹ SAE M)
16.	155-935	1	Dust Cap
17.	155-936	2	Dust Plug
18.	155-958	1	Trick Quick Coupler (1-1/16- ¹ SAE M)
19.	155-959	1	Hydraulic Manifold
20.	181-303	2	Sleeve
21.	500-302	1	Plug (1-1/16- ¹ SAE M)
	155-709		O-Ring (-912)

¹Early style. See footnote 2.

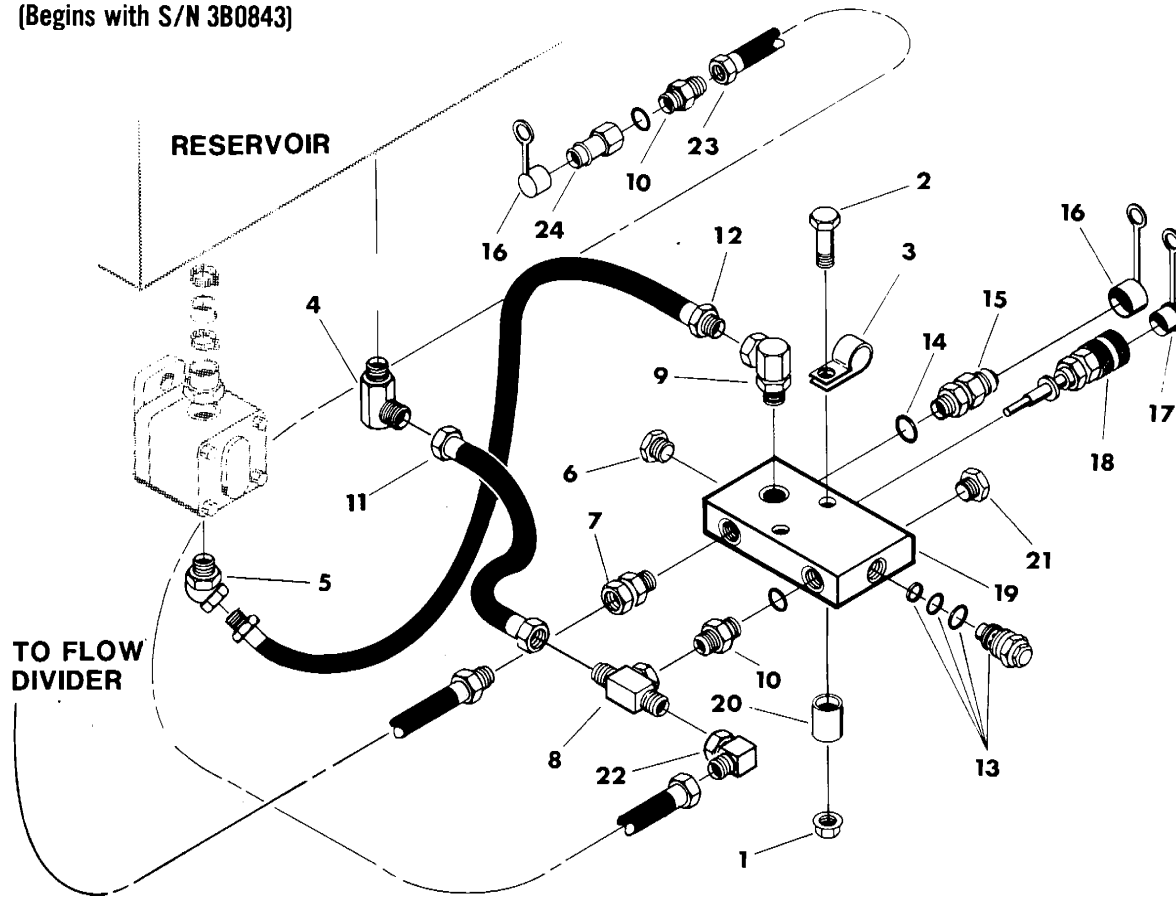
²Present production. Begins with relocation of grille and manifold.

³In order to install return line, which allows mounting of A220 (after S/N 180905) with power beyond in the outlet cover, refer to Item 2 of Technical Bits dated 9-27-85.

OPTIONAL MANIFOLD HYDRAULICS

For A220 with Return Line

(Begins with S/N 3B0843)

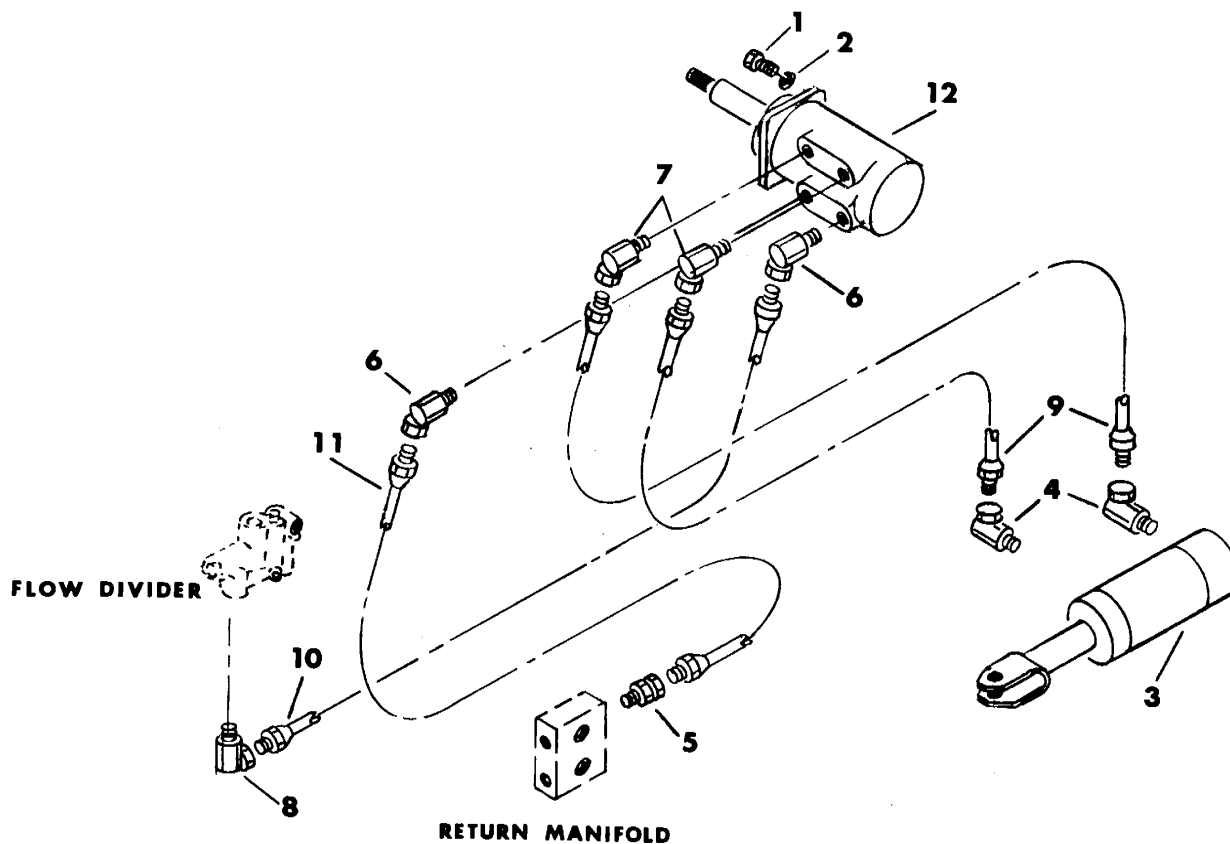


Ref. No.	Part Number	Qty.	Description
	190-330		¹ Hydraulic Manifold Conversion Kit (Incl. ref. no.'s 1 thru 24)
1.	105-814	2	Flange Locknut (3/8-NC)
2.	105-207	2	Bolt (3/8-NC x 4-1/4")
3.	110-126	1	Clamp
4.	154-201	1	Adapter Connector (3/8-NPT x 3/4-JIC x 90°)
5.	155-043	1	Adapter Union (3/4-SAE x 1/2-NPT x 45°)—Wisc.
	155-706		O-Ring (-908)
6.	155-074	1	Plug (3/4-SAE M)
	155-706		O-Ring (-908)
7.	155-083	1	Adapter Union (1-1/16-SAE x 1/2-NPT, STR)—Wisc.
	155-709		O-Ring (-912)
	155-134	1	Adapter Union (1-1/16-SAE x 1/2-NPT x 45°)—Deutz
	155-709		O-Ring (-912)
8.	154-202	1	Branch Tee (3/4-JIC FM x 3/4 JIC M x 3/4 JIC M)
9.	155-106	1	Adapter Union (1-1/16-SAE x 1/2" x 90°)
	155-709		O-Ring (-912)

Ref. No.	Part Number	Qty.	Description
10.	154-006	2	Adapter Connector (1-1/16-SAE M x 3/4-JIC M, STR)
	155-709		O-Ring (-912)
11.	154-566	1	Hose (3/4-JIC FM x 16", 3500 PSI)
12.	155-350	1	Hose (1/2-NPT M x 16", 3500 PSI)—Wisc.
	155-360	1	Hose (1/2-NPT M x 31", 2000 PSI)—Deutz
13.	155-630	1	Relief Cartridge
14.	155-709	1	O-Ring (-912)
15.	155-933	1	Quick Coupler Adapter (1-1/16-SAE M)
16.	155-935	2	Dust Cap
17.	155-936	2	Dust Plug
18.	155-958	1	Trick Quick Coupler (1-1/16-SAE M)
19.	155-959	1	Hydraulic Manifold
20.	181-303	2	Sleeve
21.	500-302	1	Plug (1-1/16-SAE M)
	155-709		O-Ring (-912)
22.	154-111	1	Adapter Union (3/4-JIC FM x 3/4 JIC M x 90°)
23.	154-577	1	Hose (3/4-JIC FM x 26-1/2", 2000 PSI)
24.	159-007	1	Quick Coupler Adapter (1-1/16-SAE FM)

¹Refer to installation diagram 050-953.

STEERING CIRCUIT HYDRAULICS



Ref. No.	Part Number	Qty.	Description
1.	105-052	2	Bolt (3/8-NC x 1-1/4")
2.	105-072	2	Lock Washer (3/8")
3.	150-091	1	Steering Cylinder
4.	155-001	2	¹ Adapter Union (1/4" x 1/4" x 90°)
	155-002	2	² Adapter Union (1/4" x 1/4" x 45°)
5.	155-057	1	Adapter Union (3/8" x 3/8", STR)
6.	155-067	2	Adapter Union (3/4- ¹ SAE x 3/8" x 45°)
	155-706		O-Ring (-908)
7.	155-096	2	Adapter Union (3/4- ¹ SAE x 1/4" x 45°)
	155-706		O-Ring (-908)

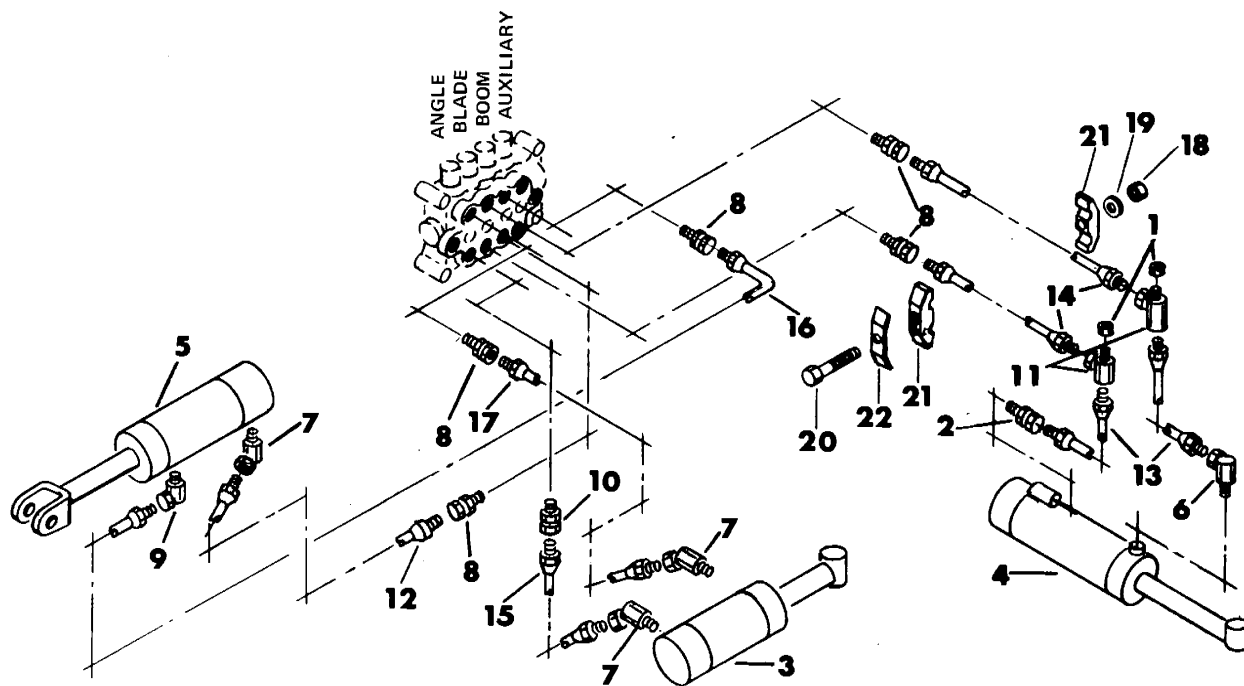
Ref. No.	Part Number	Qty.	Description
8.	155-103	1	Adapter Union (9/16- ¹ SAE x 3/8" x 90°)
	155-705		O-Ring (-906)
9.	155-331	2	Hose (1/4" x 44", 2750 PSI)
10.	155-310	1	Hose (3/8" x 27", 2250 PSI)
11.	155-377	1	Hose (3/8" x 33", 250 PSI)
12.	155-683	1	Steering Motor

¹Ends with S/N 300741. Used with single blade angle cylinder.
²Begins with S/N 300742. Used with double blade angle cylinder.

PIVOT and BACKFILL BLADE HYDRAULICS

SINGLE BLADE ANGLE CYLINDER

[Ends with S/N 300741]



Ref. No.	Part Number	Qty.	Description
1.	105-047	2	Locknut (3/8-NC)
2.	155-015	1	¹ Adapter Union (1/4" x 1/4", STR)
3.	150-110	1	Blade Angle Cylinder
4.	150-093	1	Blade Lift Cylinder
5.	150-094	1	¹ Pivot Cylinder
	150-040	1	² Pivot Cylinder
6.	155-001	1	Adapter Union (1/4" x 1/4" x 90°)
7.	155-002	3	Adapter Union (1/4" x 1/4" x 45°)
8.	155-026	5	Adapter Union (9/16- ¹ SAE x 1/4", STR)
	155-705		O-Ring (-906)
9.	155-033	1	Adapter Union (1/4" x 1/4" x 90°, w/orifice)
10.	155-139	1	Adapter Union (9/16- ¹ SAE x 1/4", STR, w/orifice)
	155-705		O-Ring (-906)
11.	155-124	2	Adapter Union (1/4" x 1/4" x 90°, w/stud)

Ref. No.	Part Number	Qty.	Description
12.	155-312	1	Hose (1/4" x 62", 2750 PSI)—early models
	155-438	1	Hose (1/4" x 66", 2750 PSI)
13.	155-324	2	Hose (1/4" x 20", 2750 PSI)
14.	155-312	2	Hose (1/4" x 62", 2750 PSI)
15.	155-339	1	Hose (1/4" x 40", 2750 PSI)
16.	155-439	1	Hose (1/4" x 75", 2750 PSI)
17.	155-335	1	Hose (1/4" x 36", 2750 PSI)
18.	105-053	1	Nut (3/8-NC)
19.	105-072	1	Lock Washer (3/8")
20.	105-075	1	Bolt (3/8-NC x 2")
21.	110-270	2	Hose Clamp
22.	305-256	1	Backup Spacer

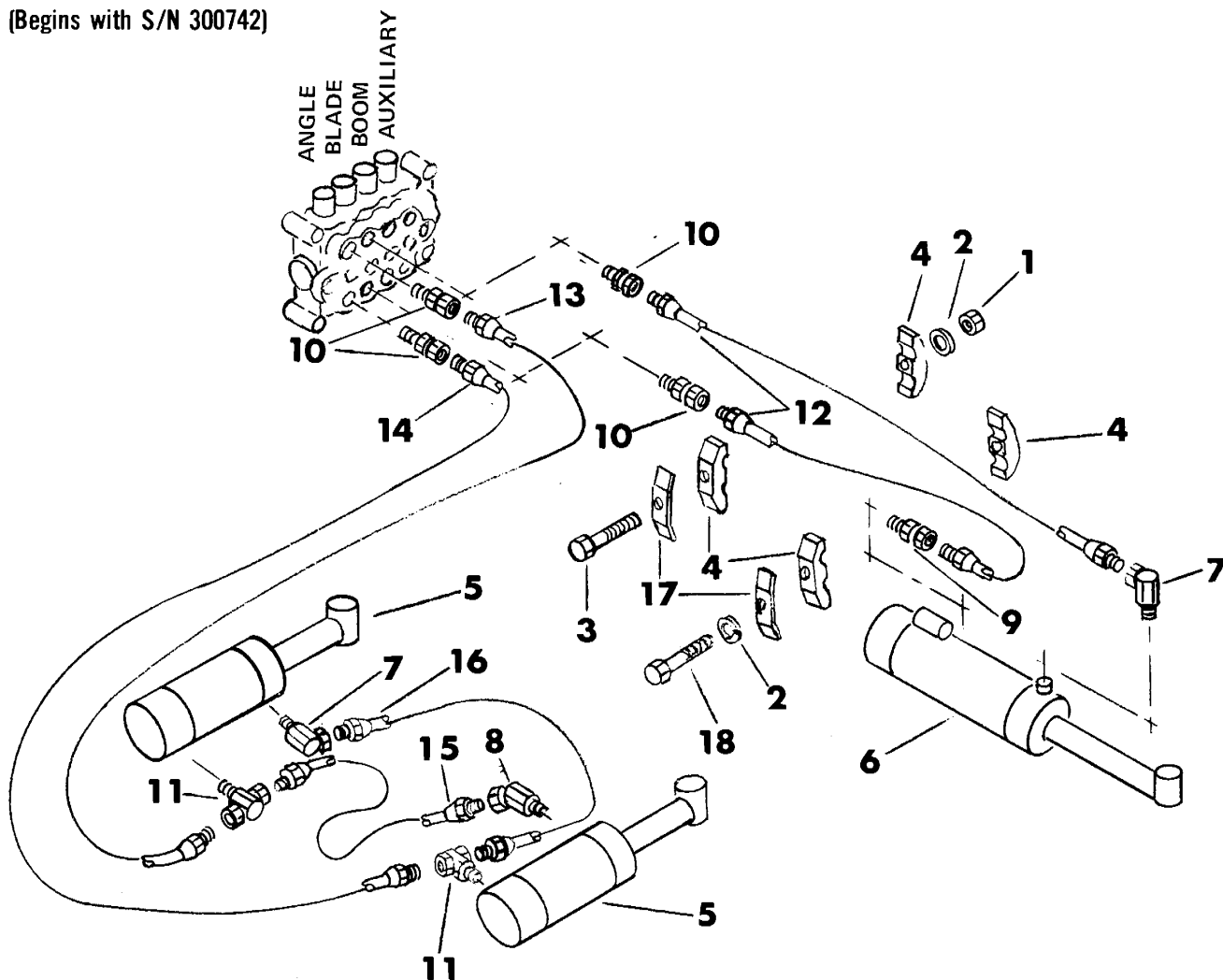
¹Ends with S/N 300205.

²Begins with S/N 300206.

BACKFILL BLADE HYDRAULICS

DOUBLE BLADE ANGLE CYLINDER

(Begins with S/N 300742)



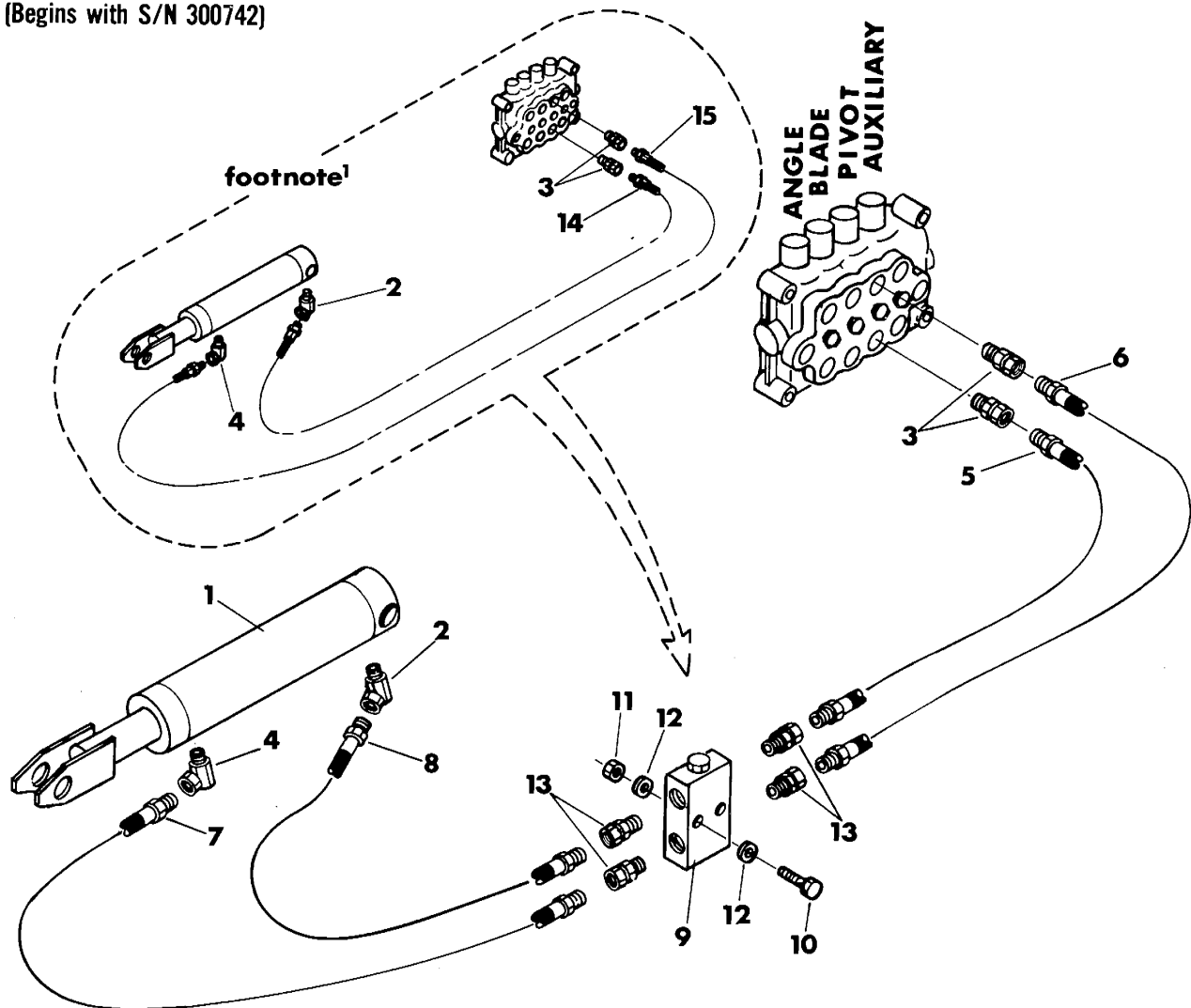
Ref. No.	Part Number	Qty.	Description
1.	105-053	2	Nut (3/8-NC)
2.	105-072	2	Lock Washer (3/8")
3.	105-075	1	Bolt (3/8-NC x 2")
4.	110-270	4	Hose Clamp
5.	150-003	2	Blade Angle Cylinder
6.	150-093	1	Blade Lift Cylinder
7.	155-001	2	Adapter Union (1/4" x 1/4" x 90°)
8.	155-002	1	Adapter Union (1/4" x 1/4" x 45°)
9.	155-015	1	Adapter Union (1/4" x 1/4", STR)
10.	155-026	4	Adapter Union (9/16-SAE x 1/4", STR)
	155-705		O-Ring (-906)

Ref. No.	Part Number	Qty.	Description
11.	155-157	2	Adapter Union Tee (1/4")
12.	155-453	2	Hose (1/4" x 90", 2750 PSI)
13.	155-302	1	Hose (1/4" x 49", 2750 PSI)
14.	155-339	1	Hose (1/4" x 40", 2750 PSI)
15.	155-451	1	Hose (1/4" x 11-1/4", 2750 PSI)
16.	155-452	1	Hose (1/4" x 13-1/4", 2750 PSI)
17.	305-256	2	Backup Spacer
18.	105-150	1	Bolt (3/8-NC x 1-3/4")

PIVOT HYDRAULICS

DOUBLE BLADE ANGLE CYLINDER

(Begins with S/N 300742)



Ref. No.	Part Number	Qty.	Description
1.	150-040	1	Pivot Cylinder
2.	155-002	1	³ Adapter Union (1/4" x 1/4" x 45°)
	155-001	1	⁴ Adapter Union (1/4" x 1/4" x 90°)
3.	155-026	2	Adapter Union (9/16- ³ SAE x 1/4", STR)
	155-705		O-Ring (-906)
4.	155-033	1	Adapter Union (1/4" x 1/4" x 90°, w/orifice)
5.	155-438	1	Hose (1/4" x 66", 2750 PSI)
6.	155-439	1	Hose (1/4" x 75", 2750 PSI)
7.	155-314	1	Hose (1/4" x 16", 2750 PSI)
8.	155-324	1	³ Hose (1/4" x 20", 2750 PSI)
	155-356	1	⁴ Hose (1/4" x 24", 2750 PSI)
9.	155-623	1	² Hydraulic Lock Valve
	155-706		O-Ring (-908)

Ref. No.	Part Number	Qty.	Description
10.	105-106	2	Bolt (1/4-NC x 2")
11.	105-085	2	Locknut (1/4-NC)
12.	105-095	4	Washer (1/4")
13.	155-026	4	Adapter Union (9/16- ³ SAE x 1/4", STR)
	155-705		O-Ring (-906)
14.	155-312	1	¹ Hose (1/4" x 62", 2750 PSI)
15.	155-439	1	¹ Hose (1/4" x 75", 2750 PSI)

¹Ends with S/N 301851. Early arrangement should be replaced with lock valve [ref. no. 9] and related hoses and hardware.

²Begins with S/N 301852. Machines equipped with lock valve [ref. no. 9] do not require pivot lock pin.

³S/N 301852 thru S/N 303466.

⁴Begins with S/N 303467.

OFFSET PIVOT HYDRAULICS

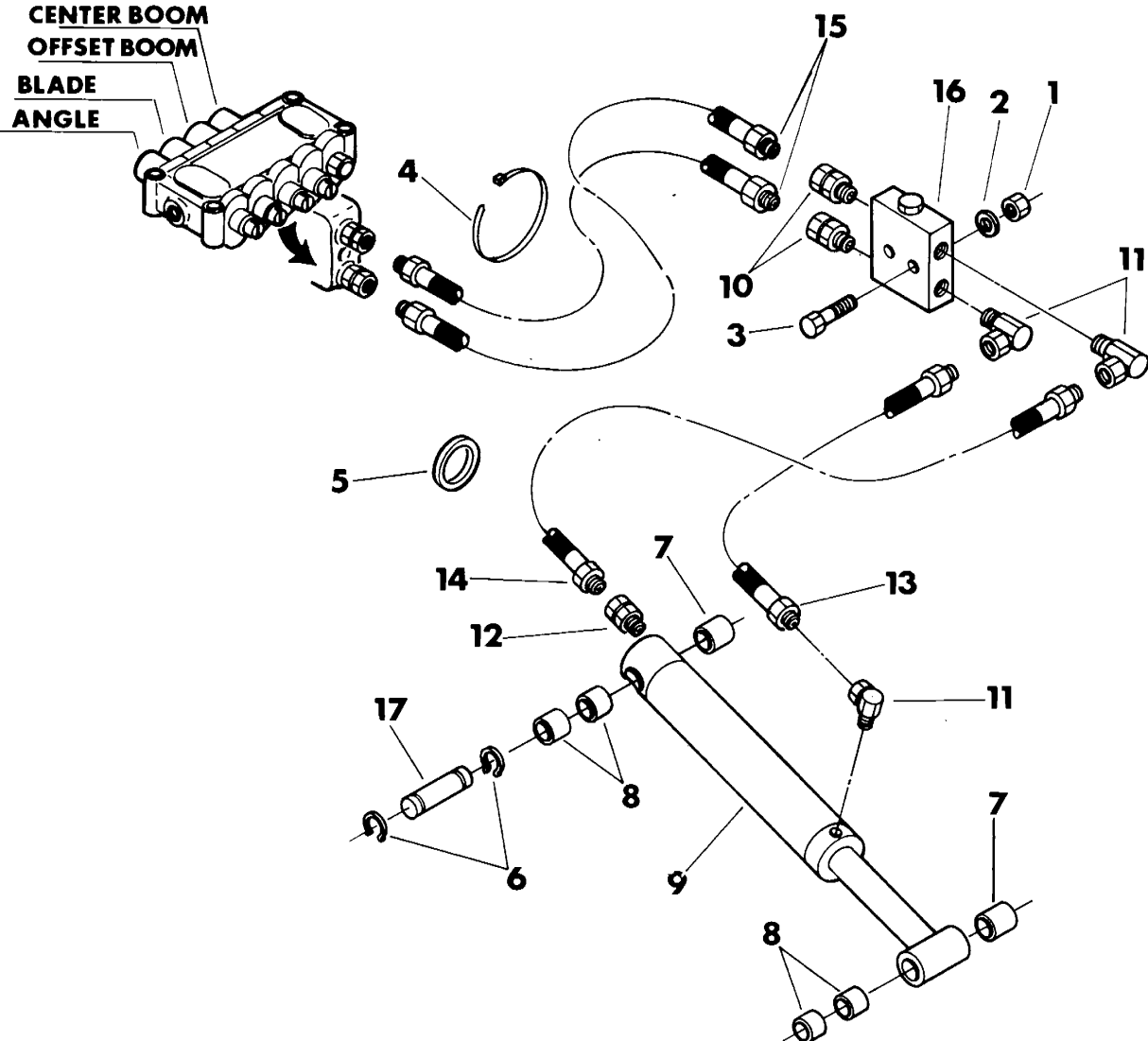
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Used with 40.37" LG Head Shaft

(Early Style)

CENTER BOOM
OFFSET BOOM

BLADE
ANGLE



Ref. No.	Part Number	Qty.	Description
N.A.			¹ Offset Pivot Conversion Kit (Incl. ref. no.'s 1 thru 17)
1.	105-085	1	Locknut (1/4-NC)
2.	105-095	1	Washer (1/4")
3.	105-106	1	Bolt (1/4-NC x 2")
4.	110-030	2	Cable Tie
5.	115-320	1	Rubber Grommet
6.	115-483	2	External Clip Ring (1" ID)
7.	125-435	2	Composition Bushing (1-1/2" LG)
8.	125-728	4	Composition Bushing (1" LG)
9.	~~150-125~~	1	² Offset Pivot Cylinder
	151-020	1	³ Offset Pivot Cylinder
10.	155-026	2	Adapter Union (9/16- SAE M x 1/4-NPT FM, STR)
	155-705		O-Ring (-906)

Ref. No.	Part Number	Qty.	Description
11.	155-063	3	Adapter Union (9/16- SAE M x 1/4-NPT FM x 90°)
	155-705		O-Ring (-906)
12.	155-099	1	Adapter Union (7/16- SAE M x 1/4-NPT FM, STR)
	155-760		O-Ring (-904)
13.	155-320	1	Hose (1/4-NPT M x 33" LG, 2750 PSI)
14.	155-324	1	Hose (1/4-NPT M x 20" LG, 2750 PSI)
15.	155-453	2	Hose (1/4-NPT M x 90" LG, 2750 PSI)
16.	155-623	1	Lock Valve
17.	183-384	1	Cylinder Pin (1-3/8" OD x 5" LG)

¹Refer to OFFSET PIVOT HYDRAULICS — 40.37" LG Head Shaft — (Present Production) for new kit.

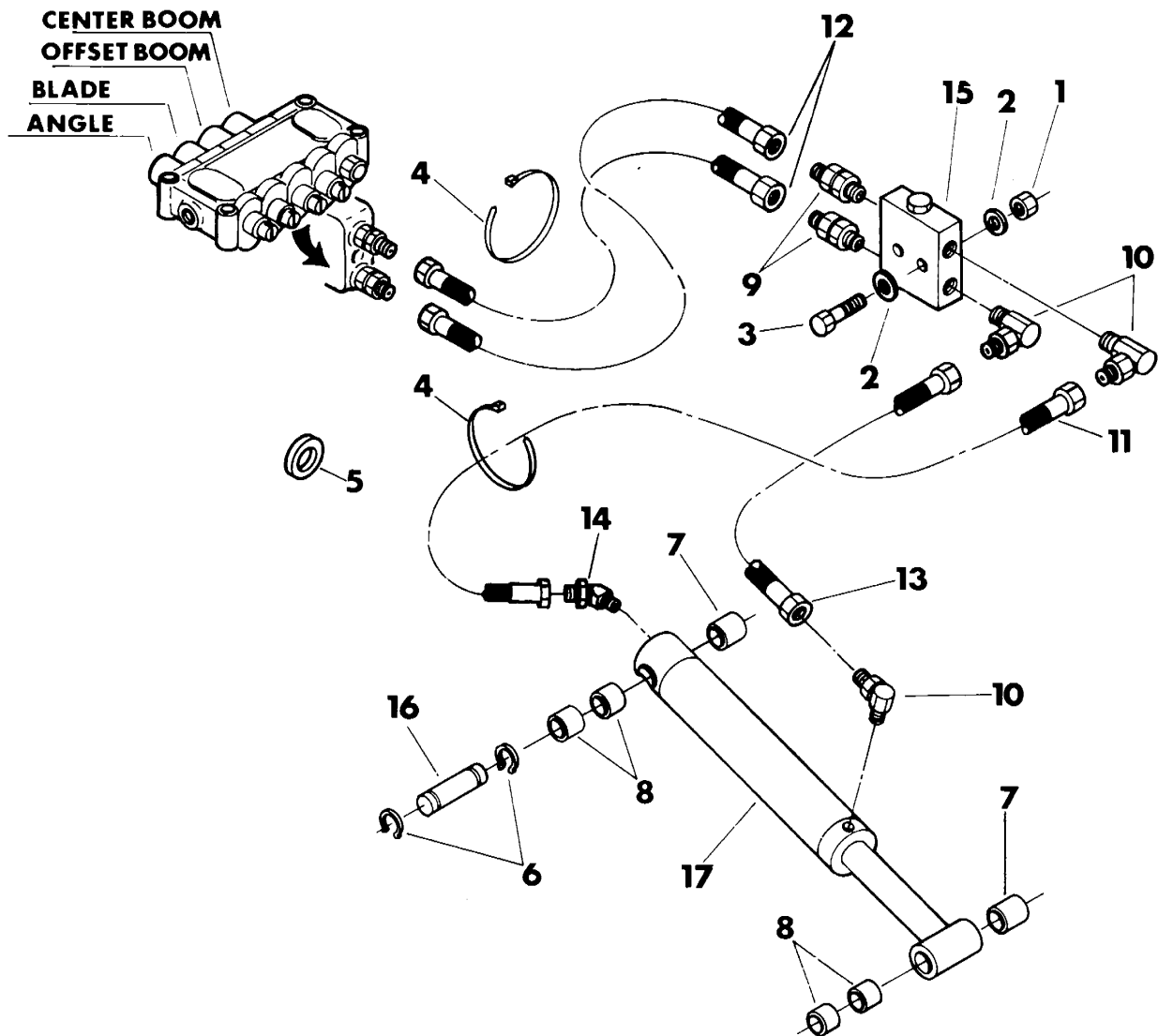
²This cylinder is no longer available. If replacement is required see footnote 3.

³This cylinder is used for all replacements.

OFFSET PIVOT HYDRAULICS

Used with 40.37" LG Head Shaft

(Present Production)



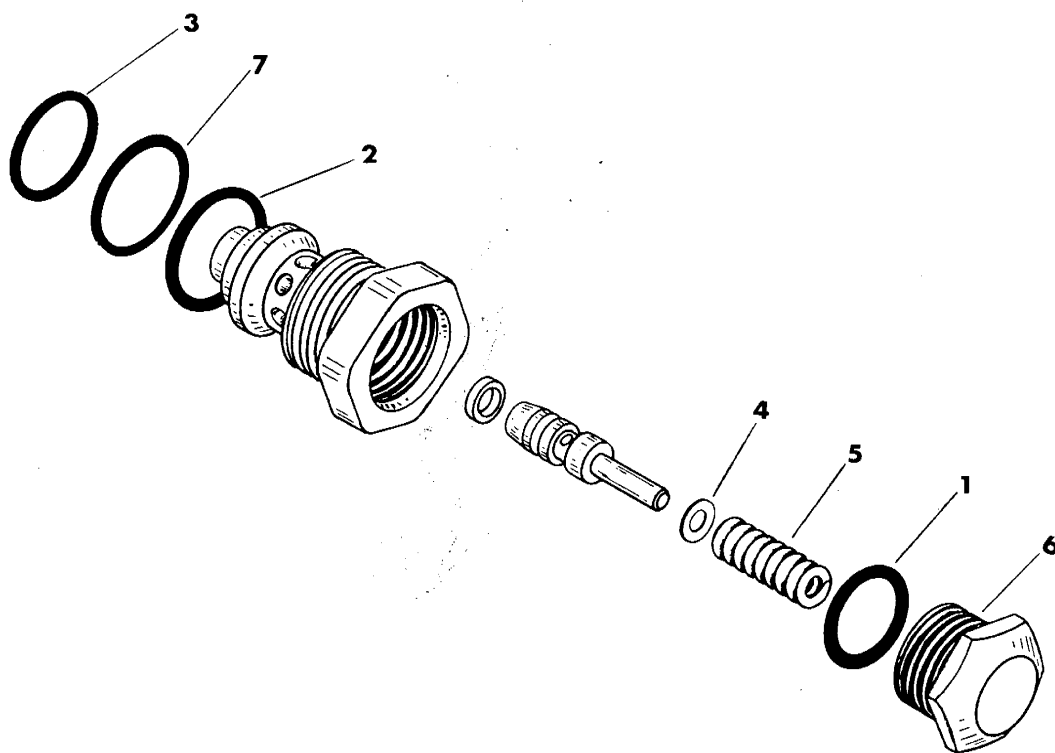
Ref. No.	Part Number	Qty.	Description
	190-390		Offset Pivot Conversion Kit (Incl. ref. no.'s 1 thru 17)
1.	105-085	1	Locknut (1/4-NC)
2.	105-095	2	Washer (1/4")
3.	105-106	1	Bolt (1/4-NC x 2")
4.	110-030	3	Cable Tie
5.	115-320	1	Rubber Grommet
6.	115-483	2	External Clip Ring (1" ID)
7.	125-435	2	Composition Bushing (1-1/2" LG)
8.	125-728	4	Composition Bushing (1" LG)
9.	154-032	2	Adapter Connector (9/16- SAE M x 7/16-JIC M , STR)
	155-705		O-Ring (-906)

Ref. No.	Part Number	Qty.	Description
10.	154-055	3	Adapter Connector (9/16- SAE M x 7/16-JIC M x 90°)
	155-705		O-Ring (-906)
11.	154-513	1	Hose (7/16-JIC FM x 20", 5000 PSI)
12.	154-578	2	Hose (7/16-JIC FM x 90", 2750 PSI)
13.	154-590	1	Hose (7/16-JIC FM x 31-1/2", 2750 PSI)
14.	155-132	1	Adapter Connector (7/16- SAE M x 7/16-JIC M x 45°)
	155-760		O-Ring (-904)
15.	155-623	1	Lock Valve
16.	183-384	1	Cylinder Pin (1-3/8" OD x 5" LG)
17.	151-020	1	Offset Pivot Cylinder

Refer to OFFSET PIVOT — 40.37" LG Head Shaft for additional kit parts.
Refer to installation diagram 050-040.

RELIEF CARTRIDGE

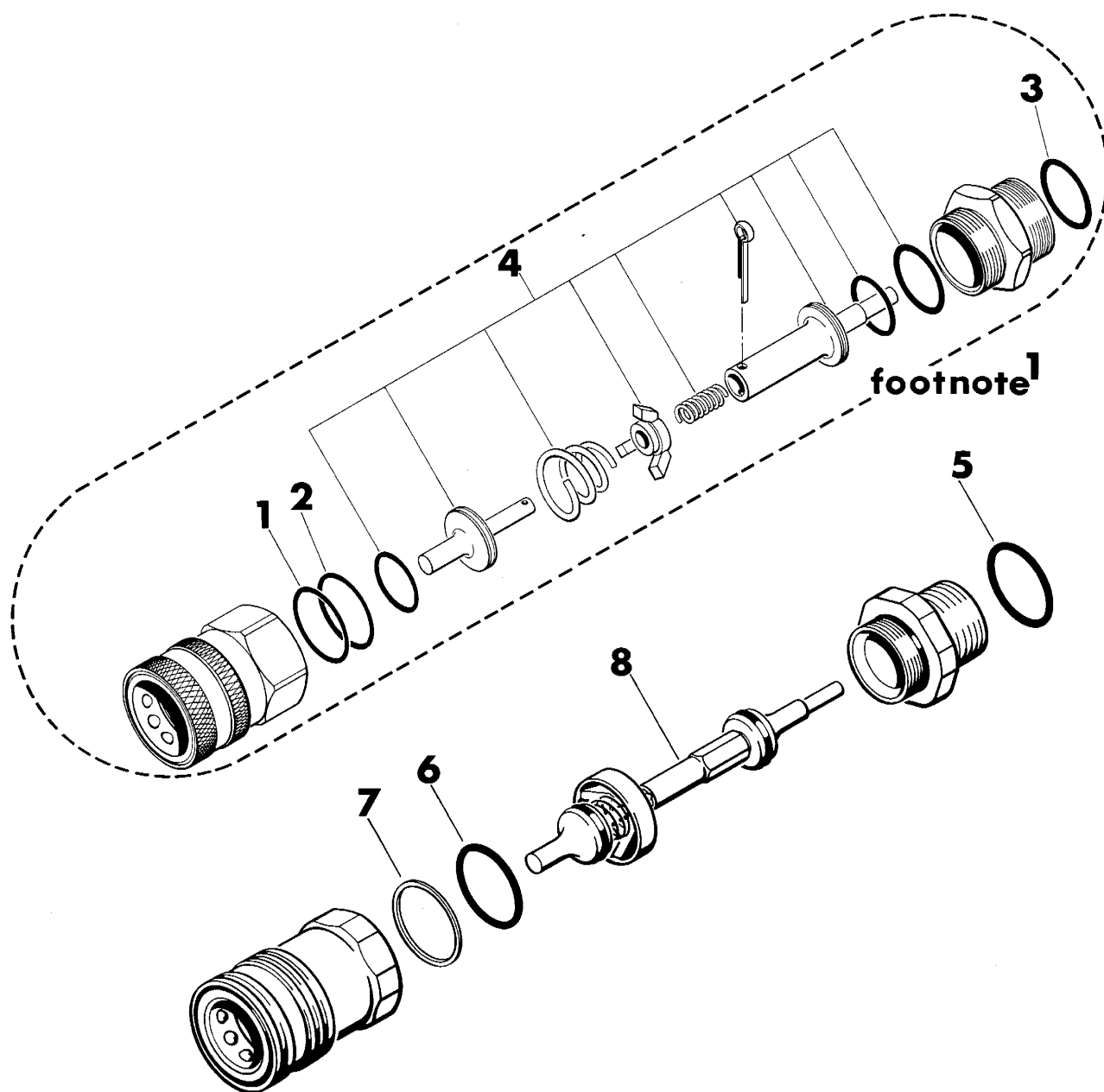
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Ref. No.	Part Number	Qty.	Description
	155-630		'Relief Cartridge (Incl. ref. no.'s 1 thru 7)
1.	155-707	1	O-Ring (-910)
2.	155-749	1	O-Ring (-023)
3.	155-750	1	O-Ring (-022)
4.	500-025	AR	Shim (.010" THK)
5.	500-318	1	Spring
6.	500-408	1	Cap
7.	157-508	1	Backup Ring (-022)

'Refer to installation diagram 052-139 for replacement procedures.

TRICK QUICK COUPLER BODY



Ref. No.	Part Number	Qty.	Description
	155-958		² Trick Quick Coupler (Incl. ref. no.'s 5 thru 8)
1.	155-728	1	¹ Backup Ring (-213)
2.	155-745	1	¹ O-Ring (-213)
3.	155-747	1	¹ O-Ring (-914)
4.	500-358	1	¹ Valve Stem Repair Kit
5.	155-747	1	² O-Ring (-914)

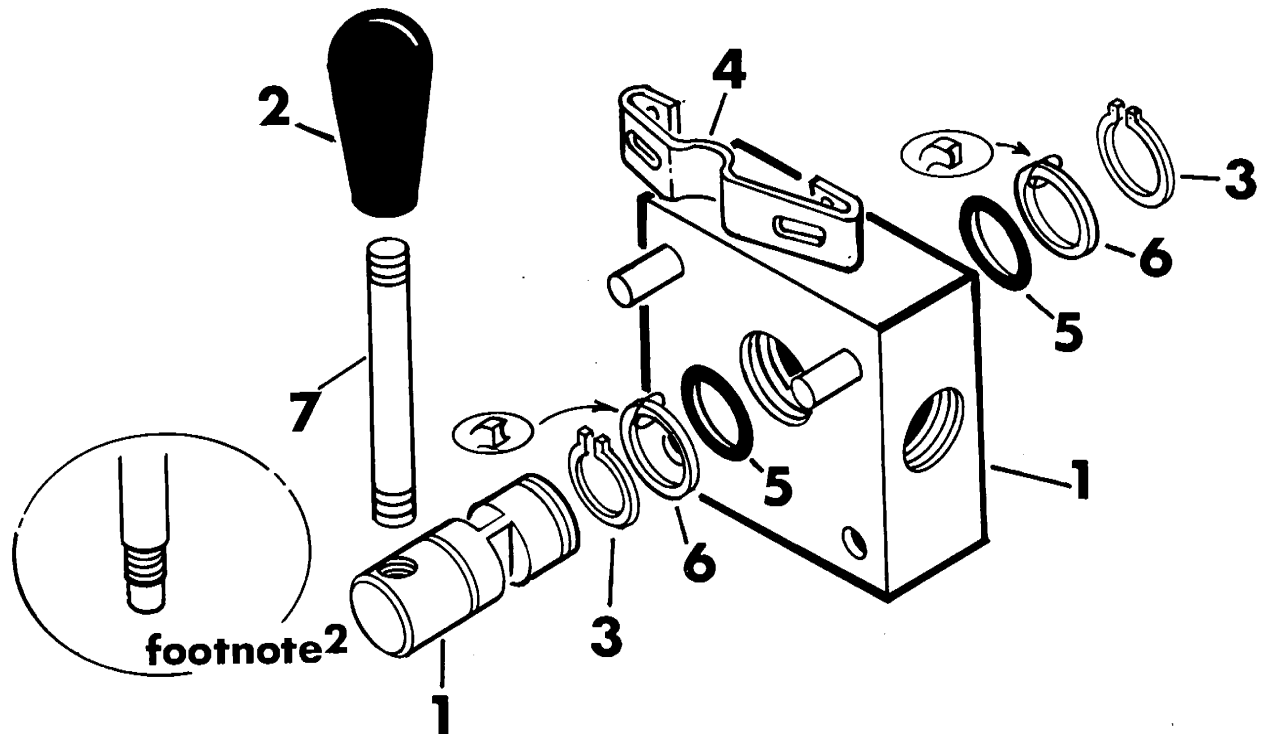
Ref. No.	Part Number	Qty.	Description
6.	155-777	1	² O-Ring (-119)
7.	157-016	1	² Backup Ring (-119)
8.	500-493	1	² Valve Stem Repair Kit

¹These parts are associated with "Snaptite" couplers, which are no longer available.

²These parts are associated with "Faster" couplers, which are used in present production and all replacements.

SPEED CONTROL VALVE

<https://truckmanualshub.com/>

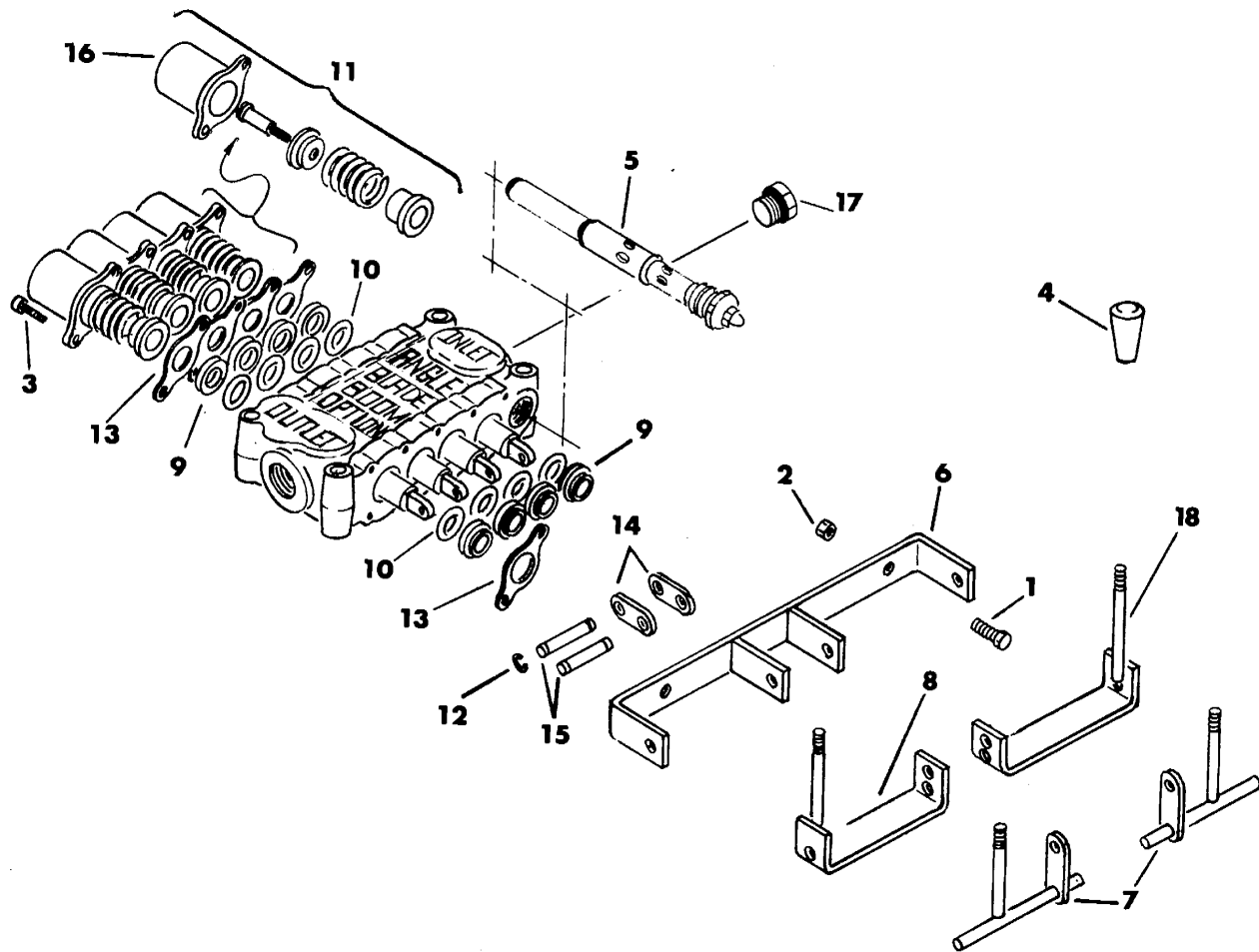


Ref. No.	Part Number	Qty.	Description
	155-655		Speed Control Valve (Incl. ref. no.'s 1, 3, 5 and 6)
1.	N.A.		¹ Body and Spool
2.	110-361	1	Knob
3.	115-484	2	External Snap Ring
4.	115-598	1	Detent Spring

Ref. No.	Part Number	Qty.	Description
5.	155-783	2	O-Ring (-210)
	155-759	2	O-Ring (-210)—replacements
6.	500-299	2	Backup Ring (-210)
7.	361-891	1	Rod (6" LG)
	361-949	1	² Rod (5.8" LG, w/stub)

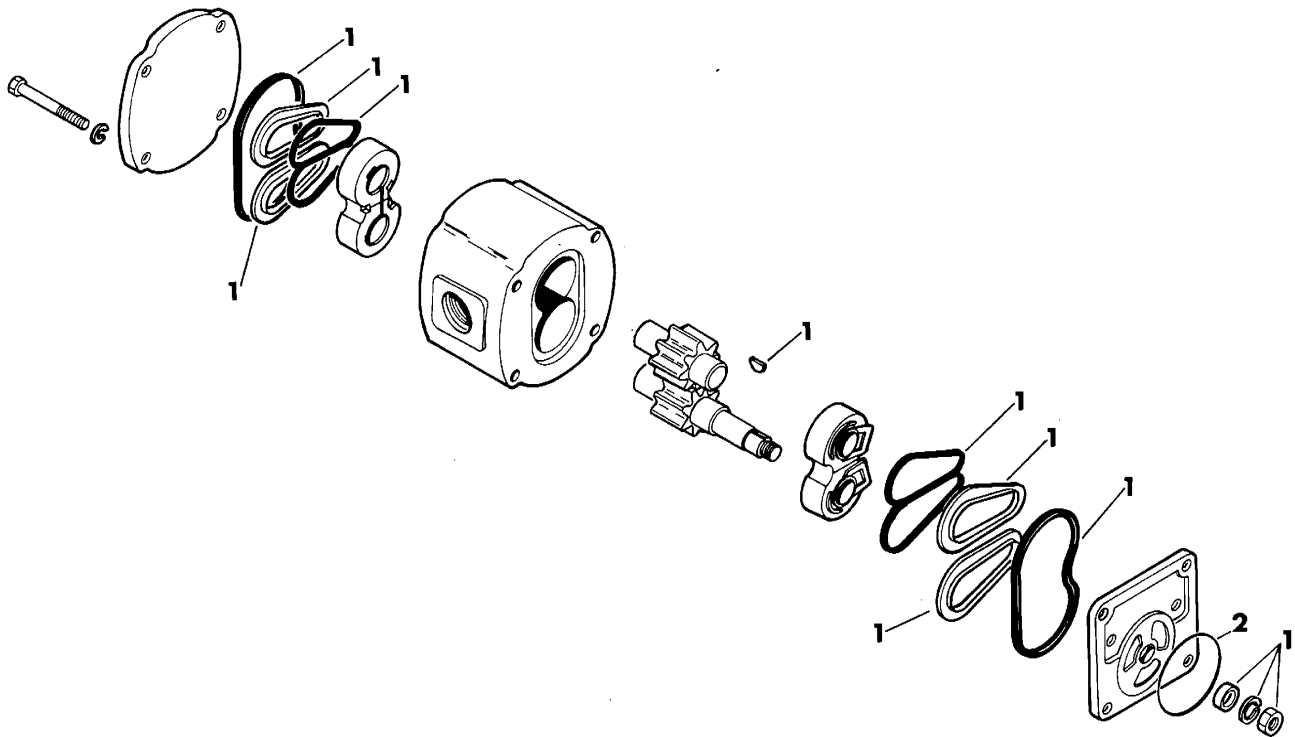
¹These parts are available only when ordering complete valve assembly.
²Begins with S/N 6D1008 and units retrofit with crowd safety switch. Order separately from valve.

HYDRAULIC CONTROL VALVE



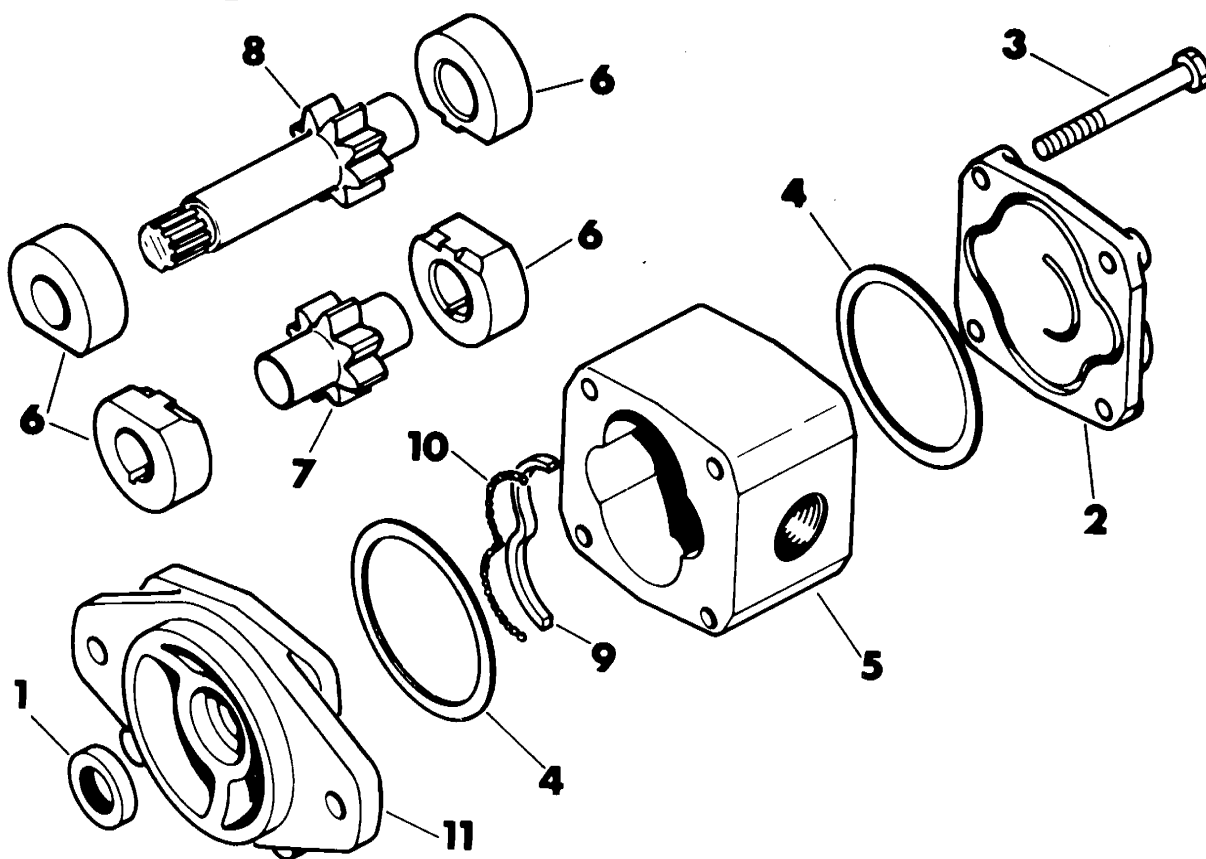
Ref. No.	Part Number	Qty.	Description
	155-620		Hydraulic Control Valve (Incl. ref. no.'s 3, 5, 9, 10, 11, 13, 16 and 17)
1.	105-031	2	Bolt (3/8-NC x 1")
2.	105-047	2	Locknut (3/8-NC)
3.	105-087	16	Bolt (1/4-NC x 7/8", ALN HD, GR 8)
4.	110-051	4	Handle
5.	155-631	1	Relief Cartridge
6.	360-223	1	Lever Support Bracket
7.	361-416	2	Inner Handle
8.	361-420	1	Outer Handle
9.	500-038	8	Wiper Spool

Ref. No.	Part Number	Qty.	Description
10.	155-759	8	O-Ring (-210)
11.	500-040	4	Spool End Spring Centered Kit
12.	500-046	16	External Retaining Ring
13.	500-176	8	Seal Plate
14.	500-177	8	Lever Link
15.	500-178	8	Link Pin
16.	500-198	4	Spool End Cap
17.	500-302	1	Plug (1-1/16- SAE M)
	155-709		O-Ring (-912)
18.	361-420	1	Outer Handle (standard)
	361-471	1	Outer Handle (Telecom only)



86034-86073

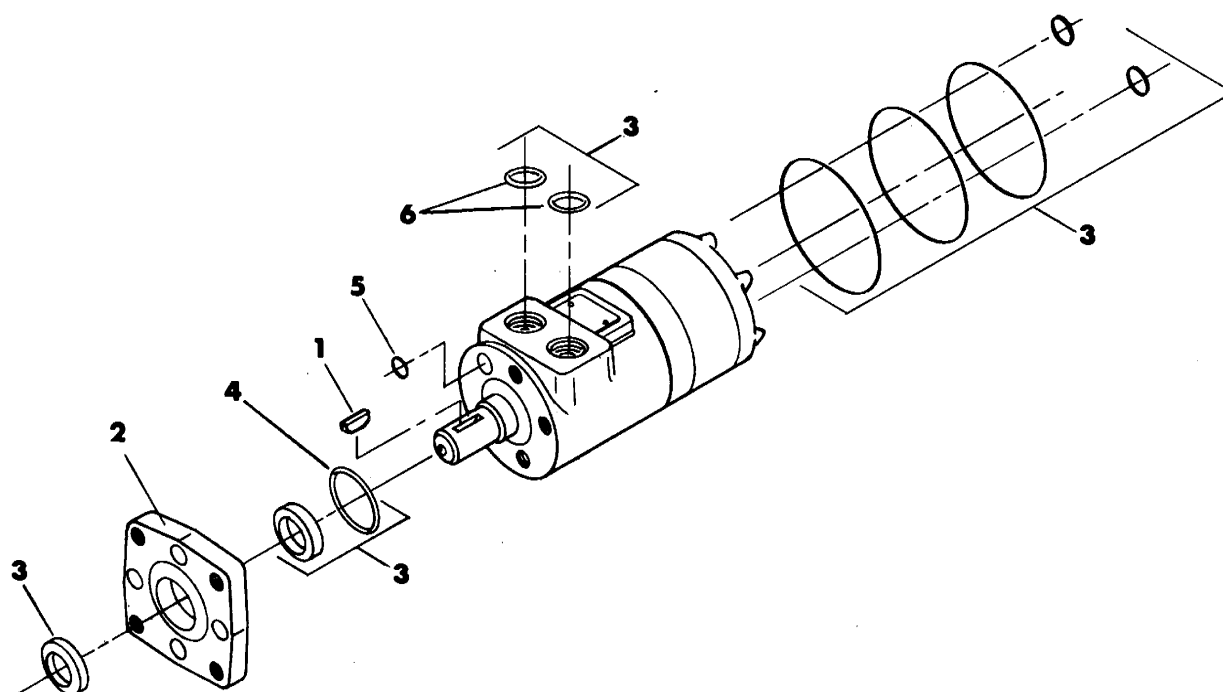
HYDRAULIC PUMP WISCONSIN ENGINE



Ref. No.	Part Number	Qty.	Description
	155-507		Hydraulic Pump (Incl. ref. no.'s 1 thru 11)
1.	155-878	1	Internal Seal
2.	500-002	1	Rear Cover
3.	500-005	4	Bolt (3/8-NC x 3-3/8")
4.	500-007	2	Gasket
5.	500-010	1	Body

Ref. No.	Part Number	Qty.	Description
6.	500-011	4	Bearing
7.	500-014	1	Driven Gear
8.	500-017	1	Drive Gear
9.	500-020	1	Gasket Loading Seal
10.	500-021	1	Spacer
11.	500-023	1	Front Cover

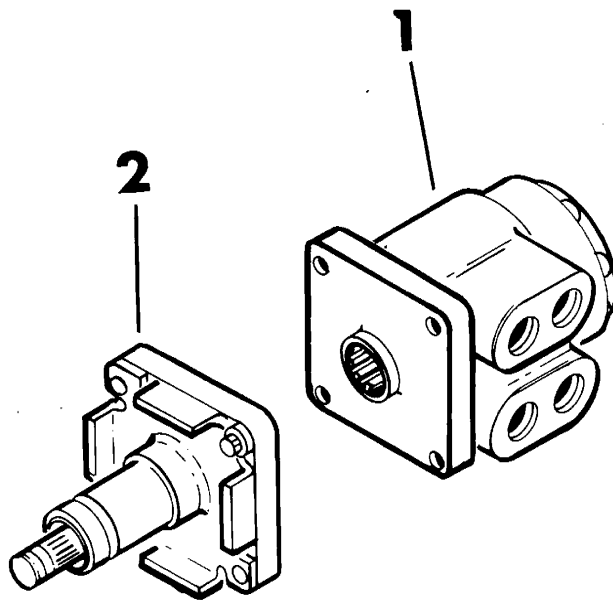
HYDRAULIC MOTOR



Ref. No.	Part Number	Qty.	Description
	155-551		Hydraulic Motor (NPT)—Incl. ref. no.'s 1 thru 6
	155-570		Hydraulic Motor (SAE)—Incl. ref. no.'s 1 thru 6
	155-568		Hydraulic Motor (manifold mount)—Incl. ref. no.'s 1 thru 6
1.	165-931	1	Woodruff Key (1/4" x 1")

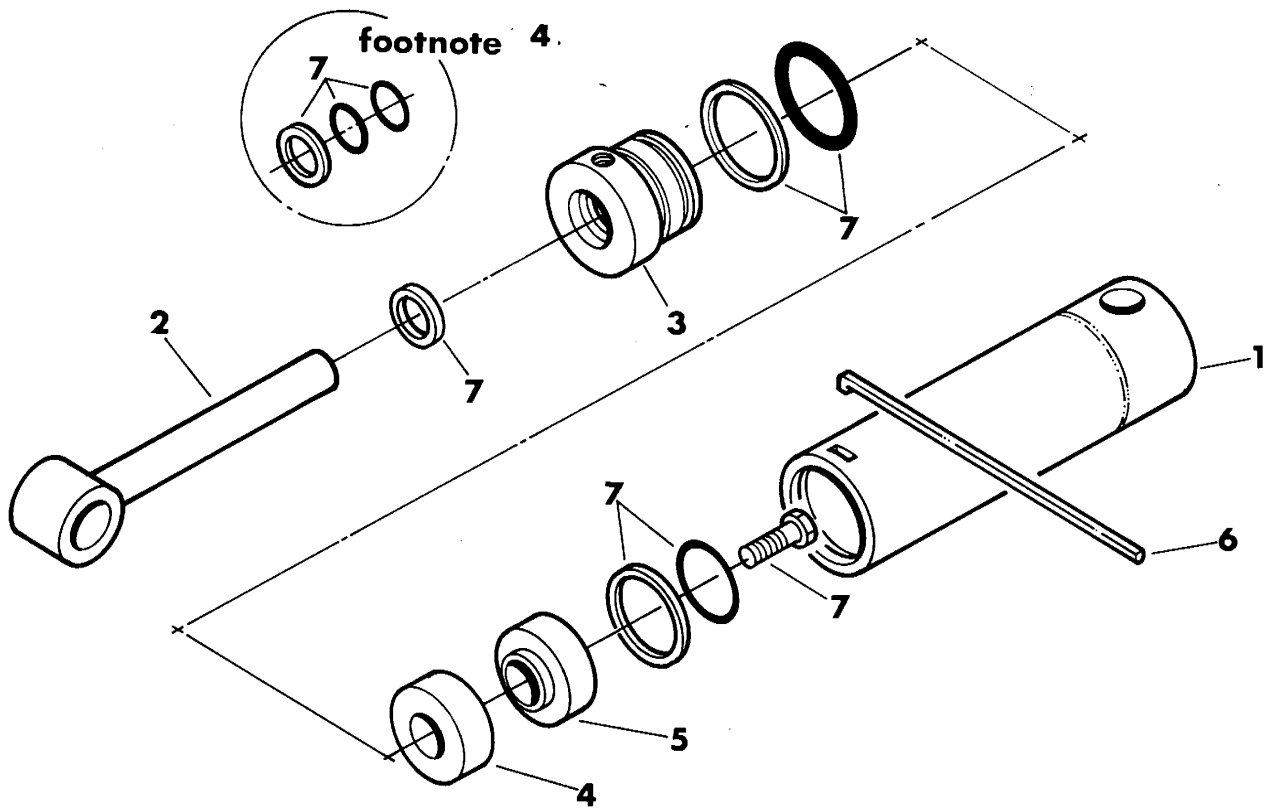
Ref. No.	Part Number	Qty.	Description
2.	500-341	1	Flange Mounting (for NPT and SAE motors)
3.	500-342	1	Seal Repair Kit (Incl. ref. no.'s 4, 5 and 6)
4.	155-762	1	O-Ring (-132)
5.	155-718	1	O-Ring (-012)
6.	155-772	2	O-Ring (-112)

POWER STEERING VALVE



Ref. No.	Part Number	Qty.	Description
	155-683		Power Steering Valve (Incl. ref. no.'s 1 and 2)
1.	155-627	1	Orbitrol Valve
2.	155-672	1	Steering Column

BLADE ANGLE CYLINDERS



Ref. No.	Part Number	Qty.	Description
	150-110		¹ Blade Angle Cylinder (2" ID)—Incl. ref. no.'s 1 thru 7
	150-003		² Blade Angle Cylinder (2" ID)—Incl. ref. no.'s 1 thru 7
1.	150-153	1	Cylinder Barrel (blade angle)
2.	150-374	1	¹ Cylinder Rod (blade angle)
	150-301	1	² Cylinder Rod (blade angle)
3.	150-863	1	⁵ Cylinder Head
	150-802	1	⁶ Cylinder Head
4.	150-904	1	Smooth Backup Piston (2" OD)
5.	150-906	1	Grooved Piston (2" OD)
6.	150-912	1	Lock Ring (2" ID)
7.	190-101	1	³ Seal Repair Kit (for 2" ID)
	190-158	1	⁴ Seal Repair Kit (for 2" ID)

Ref. No.	Part Number	Qty.	Description
Not Shown:			
	259-065		⁷ Piston Ring Compressor
	259-066		⁷ Piston Ring Guide
	259-100		Rod U-Seal Installer (1/1.484" ID seals)

¹Ends with S/N 300741.

²Begins with S/N 300742.

³This seal kit is no longer available order corresponding kit listed below.

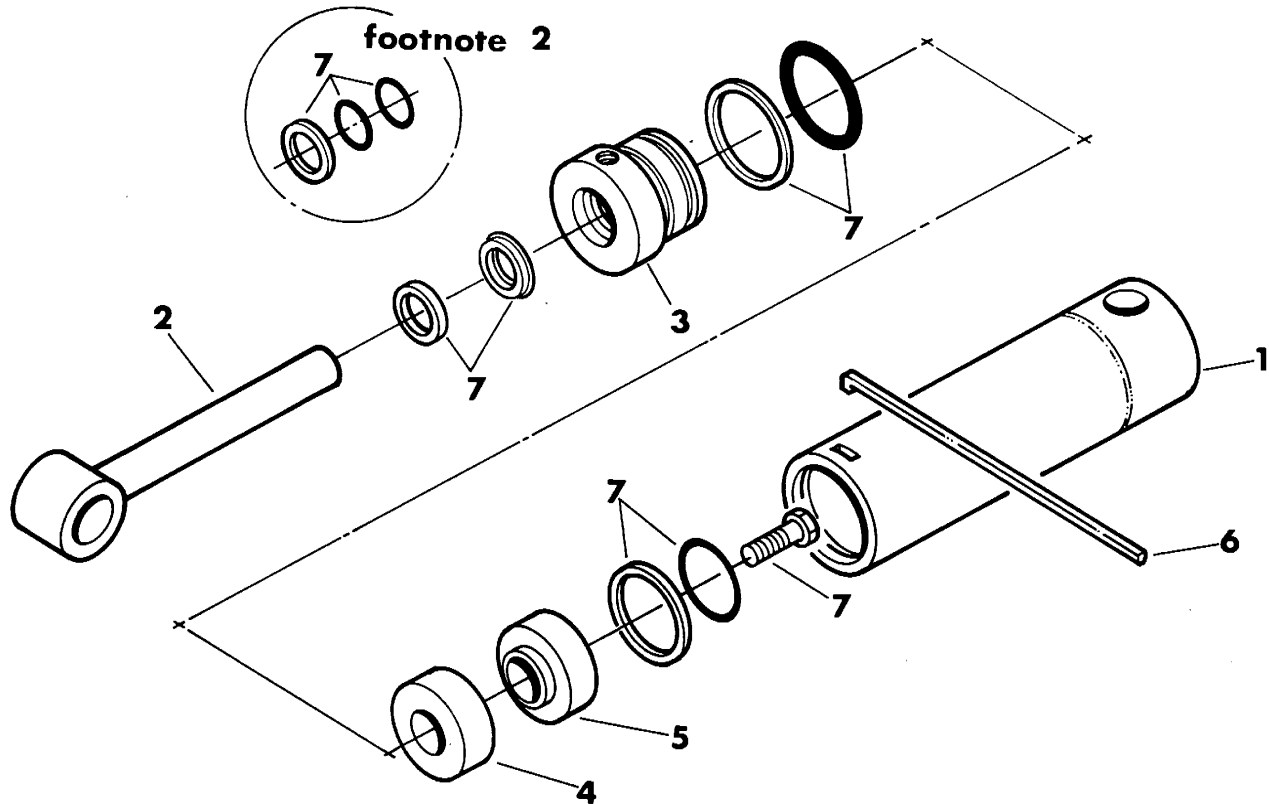
⁴This seal kit contains rod o-ring and backup ring for cylinder heads with .208" THK internal groove and u-seal for cylinder heads with .28" THK internal groove. Refer to installation diagram 050-023 and piston seal replacement diagram 052-144.

⁵This head has .208" THK internal groove designed for use with o-ring and back-up ring combination. This head is replaced by head with .28" THK internal groove and rod u-seal. See footnote 6.

⁶This head has .28" THK internal groove designed for use with rod u-seal.

⁷For procedures regarding use of piston ring tools for installation of o-ring and backup ring, on 3" OD pistons, refer to Technical Bits dated 2-27-86.

STEERING CYLINDERS



Ref. No.	Part Number	Qty.	Description
	150-091		Steering Cylinder (2" ID)—Incl. ref. no.'s 1 thru 7
1.	150-211	1	Cylinder Barrel
2.	150-327	1	Cylinder Rod
3.	150-863	1	³ Cylinder Head
	150-802	1	⁴ Cylinder Head
4.	150-904	1	Smooth Backup Piston (2" OD)
5.	150-906	1	Grooved Piston (2" OD)
6.	150-912	1	Lock Ring (2" ID)
7.	190-101	1	¹ Seal Repair Kit (for 2" ID)
	190-158	1	² Seal Repair Kit (for 2" ID)

Ref. No.	Part Number	Qty.	Description
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Not Shown:

259-065	⁵ Piston Ring Compressor
259-066	⁵ Piston Ring Guide
259-100	Rod U-Seal Installer (1/1.484" ID seals)

¹This seal kit is no longer available order corresponding kit listed below.

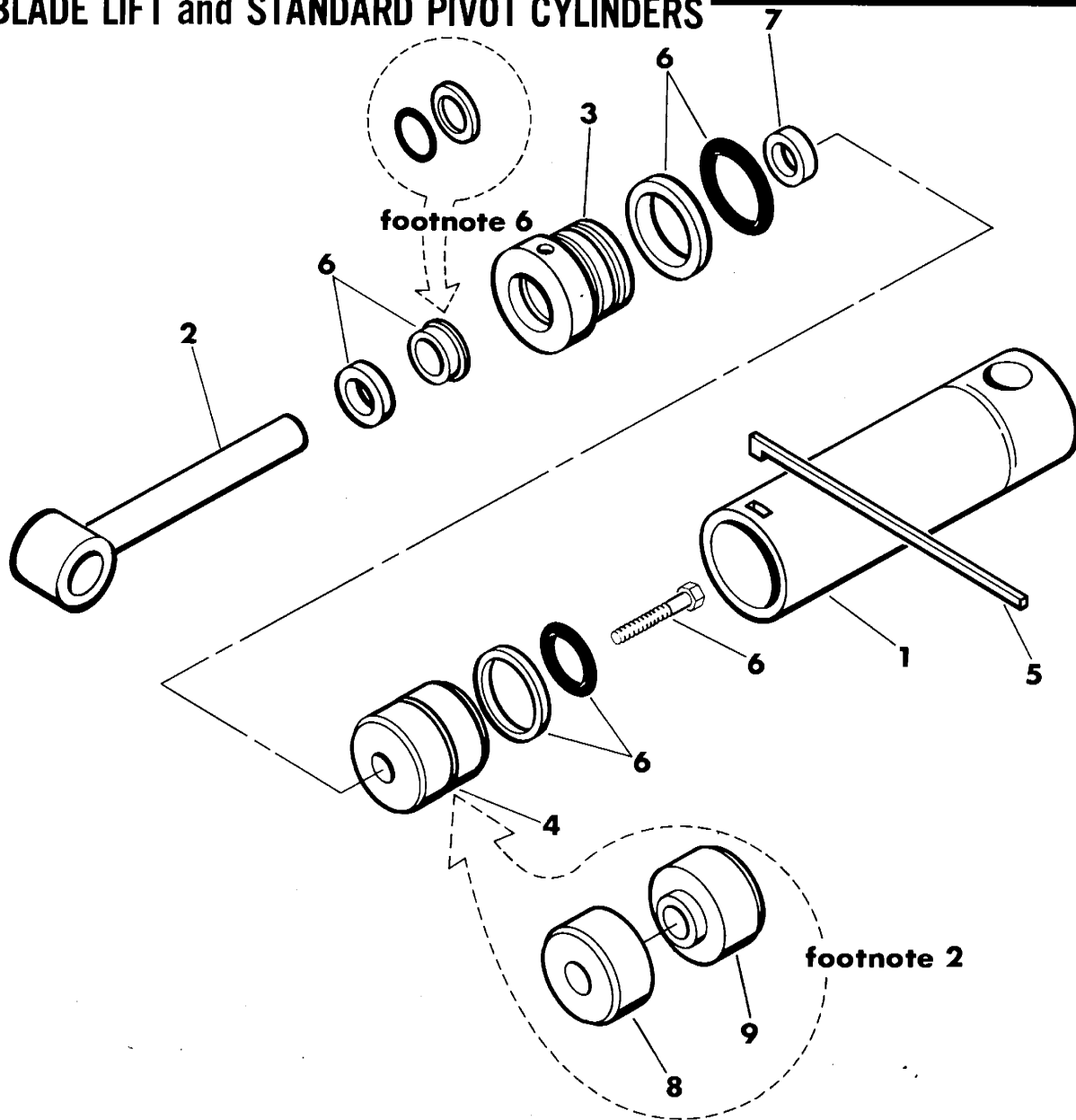
²This seal kit contains rod o-ring and backup ring for cylinder heads with .208" THK internal groove and u-seal for cylinder heads with .28" THK internal groove. Refer to installation diagram 050-023 and piston seal replacement diagram 052-144.

³This head has .208" THK internal groove designed for use with o-ring and back-up ring combination. This head is replaced by head with .28" THK internal groove and rod u-seal. See footnote 4.

⁴This head has .28" THK internal groove designed for use with rod u-seal.

⁵For procedures regarding use of piston ring tools for installation of o-ring and backup ring, on 3" OD pistons, refer to Technical Bits dated 2-27-86.

BLADE LIFT and STANDARD PIVOT CYLINDERS



Ref. No.	Part Number	Qty.	Description
	150-094		¹ Standard Pivot Cylinder (3" ID)—Incl. ref. no.'s 1 thru 6
	150-040		² Standard Pivot Cylinder (3" ID)—Incl. ref. no.'s 1 thru 7
	150-093		Blade Lift Cylinder (3" ID)—Incl. ref. no.'s 1 thru 6
1.	150-184	1	Cylinder Barrel (standard pivot)
	150-213	1	Cylinder Barrel (blade lift)
2.	150-361	1	¹ Cylinder Rod (standard pivot)
	150-309	1	² Cylinder Rod (standard pivot)
	150-349	1	Cylinder Rod (blade lift)
3.	150-851	1	³ Cylinder Head
	150-801	1	⁶ Cylinder Head
4.	150-952	1	⁴ Piston (3" OD)
5.	150-911	1	⁵ Lock Ring (3" ID)
6.	190-102	1	⁷ Seal Repair Kit (for 3" ID)
	190-159	1	⁸ Seal Repair Kit (for 3" ID)

Ref. No.	Part Number	Qty.	Description
7.	180-150	1	² Spacer (pivot)
8.	150-905	1	⁴ Smooth Backup Piston (3" OD)
9.	150-907	1	⁴ Grooved Piston (3" OD)
Not Shown:			
	259-065		³ Piston Ring Compressor
	259-066		³ Piston Ring Guide
	259-100		Rod U-Seal Installer (1/1.484" ID seals)

¹Ends with S/N 300205.

²Begins with S/N 300206.

³For procedures regarding use of piston ring tools for installation of o-ring and backup ring, on 3" OD pistons, refer to Technical Bits dated 2-27-86.

⁴Piston (ref. no. 4) replaces two piece piston (ref. no.'s 8 and 9).

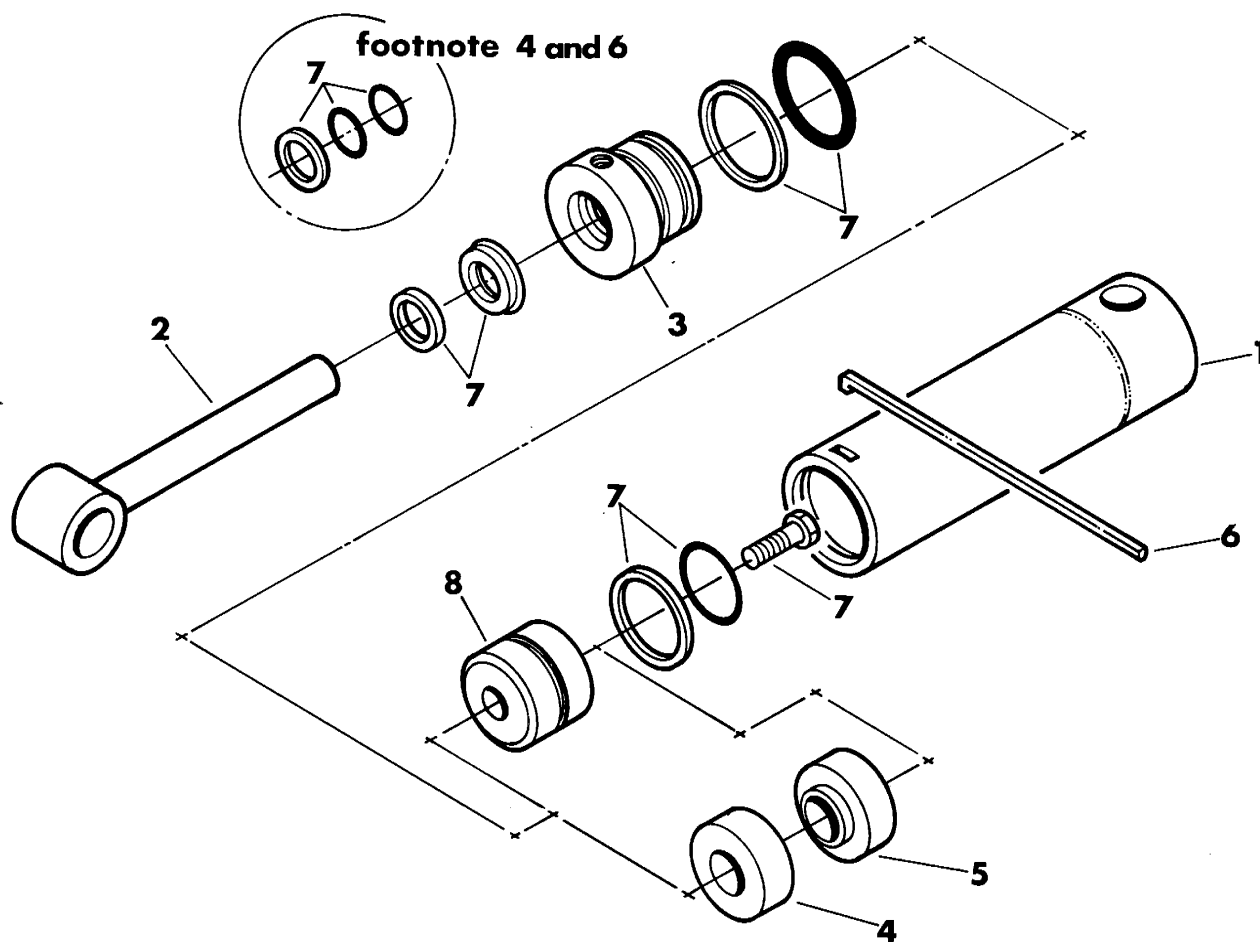
⁵This head has .208" THK internal groove designed for use with o-ring and back-up ring combination. This head is replaced by head with .28" THK internal groove and rod u-seal. See footnote 6.

⁶This head is used on head with .28" THK internal groove designed for use with rod u-seal.

⁷This seal kit is no longer available order corresponding kit listed below.

⁸This seal kit contains rod o-ring and backup ring for cylinder heads with .208" THK internal groove and u-seal for cylinder heads with .28" THK internal groove. Refer to installation diagram 050-024 and piston seal replacement diagram 052-144.

OFFSET PIVOT CYLINDERS



Ref. No.	Part Number	Qty.	Description
	150-014		¹ Offset Pivot Cylinder (2" ID)—Incl. ref. no.'s 1 thru 7
	150-125		² Offset Pivot Cylinder (3" ID)—Incl. ref. no.'s 1, 2, 3, 6, 7 and 8
	151-020		¹³ Offset Pivot Cylinder (3" ID)—Incl. ref. no.'s 1, 2, 3, 6, 7 and 8
1.	150-155	1	¹ Cylinder Barrel
	150-238	1	² Cylinder Barrel
	150-277	1	¹³ Cylinder Barrel
2.	150-305	1	¹ Cylinder Rod
	150-380	1	² Cylinder Rod
	150-380	1	¹³ Cylinder Rod
3.	150-850	1	⁷ Cylinder Head (2.5" OD)
	150-800	1	⁸ Cylinder Head (2.5" OD)
	150-843	1	⁹ Cylinder Head (3.5" OD)
	150-799	1	¹⁰ Cylinder Head (3-1/2" OD, 2.25" LG)
	150-795	1	¹³ Cylinder Head (3-1/2" OD, 2.5" LG)
4.	150-904	1	Smooth Backup Piston (2" OD)
	150-905	1	¹¹ Smooth Backup Piston (3" OD)
5.	150-906	1	Grooved Piston (2" OD)
	150-907	1	¹¹ Grooved Piston (3" OD)
6.	150-912	1	Lock Ring (2" ID)
	150-911	1	Lock Ring (3" ID)
7.	190-101	1	³ Seal Repair Kit (for 2" ID)
	190-158	1	⁴ Seal Repair Kit (for 2" ID)
	190-102	1	⁵ Seal Repair Kit (for 3" ID)
	190-159	1	⁶ Seal Repair Kit (for 3" ID)

Ref. No.	Part Number	Qty.	Description
8.	150-952	1	¹¹ Piston (3" OD)
Not Shown:			
	259-065		¹² Piston Ring Compressor
	259-066		¹² Piston Ring Guide
	259-100		Rod U-Seal Installer (1/1.484" ID seals)

- ¹Ends with S/N 303838.
- ²S/N 303839 thru S/N 300271. See footnote 13.
- ³This seal kit is no longer available order corresponding kit listed below.
- ⁴This seal kit contains rod o-ring and backup ring for cylinder heads with .208" THK internal groove and u-seal for cylinder heads with .28" THK internal groove. Refer to installation diagram 050-023 and piston seal replacement diagram 052-144.
- ⁵This seal kit is no longer available order corresponding kit listed below.
- ⁶This seal kit contains rod o-ring and backup ring for cylinder heads with .208" THK internal groove and u-seal for cylinder heads with .28" THK internal groove. Refer to installation diagram 050-024 and piston seal replacement diagram 052-144.
- ⁷This head has .208" THK internal groove designed for use with o-ring and back-up ring combination. This head is replaced by head with .28" THK internal groove and rod u-seal. See footnote 8.
- ⁸This head is used on offset pivot cylinder thru S/N 303838. This head has .28" THK internal groove designed for use with rod u-seal.
- ⁹This head has .208" THK internal groove designed for use with o-ring and back-up ring combination. This head is replaced by head with .28" THK internal groove and rod u-seal. See footnote 10.
- ¹⁰This head is used on offset pivot cylinder from S/N 303839 thru S/N 300271. This head has .28" THK internal groove designed for use with rod u-seal. See footnote 13.
- ¹¹Single piece 3" piston (ref. no. 8) replaces two piece 3" piston (ref. no.'s 4 and 5).
- ¹²For procedures regarding use of piston ring tools for installation of o-ring and backup ring, on 3" OD pistons, refer to Technical Bits dated 2-27-86.
- ¹³Begins with S/N 300272. On machines prior to this serial number; if cylinder requires replacement order new style cylinder; if cylinder barrel (ref. no. 1) requires replacement order new cylinder barrel, head (2.5" LG) and seal kit (ref. no.'s 1, 3 and 7).

WARRANTY SUPPORT

SERIAL NUMBER RECORD

Record the serial number and date of purchase of your equipment in the space provided. Specify equipment serial number and part number to expedite processing of parts orders.

Date of Purchase: _____

Serial Number: _____

Model Number: _____

WARRANTY SUPPORT PROCEDURE

Notify your dealer immediately of any malfunction or failure of Ditch Witch equipment.

Always give model, serial number and approximate date of your equipment purchase.

Return damaged parts to dealer for inspection and warranty consideration.

Order genuine Ditch Witch replacement or repair parts from your authorized Ditch Witch dealer. Use of another manufacturer's parts may void Warranty Support consideration.

Ditch Witch EQUIPMENT AND REPLACEMENT PARTS LIMITED WARRANTY POLICY

Effective 01/01/91

The following Major Component Limited Warranty covers only the serial numbered products (Products) as listed that are manufactured and distributed by Charles Machine Works, Inc. (CMW) Replacement parts, serial numbered Products, and non-major components listed under Major Component Limited Warranty are covered under Product Limited Warranty.

MAJOR COMPONENT LIMITED WARRANTY

Major Components of these Products and their attachments are warranted for a period of 1000 hours of use or one year, whichever occurs first, beginning on date of delivery of any such new Product to original purchaser.

Models 1010, 100SX, 1620, 2020, 520, and 255SX

Equipment and attachments for:

2310, 3500, 4500, 5110, 5020, 7520, 8020, Earth Augers, Jet Trac Guided Boring System, True Trac Guided Boring System, Pierce Airrow Tools, P40, P80, Trailers, Power Pacs, Subsite Surface Transmitters & Receivers

Major Components are defined as:

Subsite Surface Transmitters and Receivers.

Differentials and parts contained within.

Mechanical Transmissions.

Drive gear boxes and parts contained within.

Hydraulic, hydrostatic, and fluid pumps, motors and components that control or protect pumps and motors.

Auxiliary hydraulic control valves and electrical components used for controlling hydraulic components.

Hydraulic cylinders and components excluding repair kits.

Batteries, alternators, instruments, gauges, and protection components for electrical systems.

CMW will provide free replacement parts to original purchaser for any part of Major Components which has a defect in material or workmanship within warranty period. Defects will be determined by an inspection of Major Component or part by CMW or its authorized dealer. Original purchaser of the Product containing a Major Component must present Major Component or part to CMW or its authorized dealer for inspection within 30 days of the date Major Component or part fails. CMW will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. CMW reserves the right to supply remanufactured replacement parts as it deems appropriate.

PRODUCT LIMITED WARRANTY

Products are warranted for * 90 days from date of delivery of any new Product to original purchaser. CMW will provide free replacement parts to original purchaser for any Product which has a defect in material or workmanship. Replacement parts are warranted for 90 days from date of delivery of any such replacement part to original purchaser. Any part of a Product subject to ground contact is warranted only for defects in material or workmanship and only for the period of operational life of such part, which period shall not in any event exceed the 90 day limited warranty above. Defects will be determined by an inspection of the Product or part by CMW or its authorized dealer. Original purchaser of the Product must present Product or part to CMW or its authorized dealer for inspection within 30 days of the date of failure. CMW will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. CMW reserves the right to supply remanufactured replacement parts as it deems appropriate.

***180 days for Ditch Witch DR52, DR65, and DP195.**

EXCLUSIONS FROM PRODUCT AND MAJOR COMPONENT LIMITED WARRANTY

SPECIFICALLY EXCLUDED FROM PRODUCT AND MAJOR COMPONENT LIMITED WARRANTY ARE:

Transportation and labor charges related to repair, replacement, or inspection of Products, Major Components, or parts.

All incidental or consequential damages.

All defects, damages, or injuries caused by misuse, abuse, improper installation, alteration, neglect or uses other than those for which Products were intended.

All defects, damages, or injuries caused by improper training, operation, or servicing of Products in a manner inconsistent with manufacturer's recommendations.

All engines and engine accessories (these are covered by original manufacturer's warranty).

Tires, belts, and other parts which may be subject to another manufacturer's warranty (such warranty will be available to purchaser).

ALL IMPLIED WARRANTIES NOT EXPRESSLY STATED HEREIN, INCLUDING ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY.

IF THE PRODUCTS ARE PURCHASED FOR COMMERCIAL PURPOSES AS DEFINED BY THE UNIFORM COMMERCIAL CODE, THEN THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF AND THERE ARE NO IMPLIED WARRANTIES OF ANY KIND WHICH EXTEND TO A COMMERCIAL BUYER. ALL OTHER PROVISIONS OF THIS LIMITED WARRANTY APPLY INCLUDING THE DUTIES IMPOSED.

Ditch Witch Products have been tested to deliver acceptable performance in most conditions. This does not imply they will deliver acceptable performance in all conditions. Therefore, to assure suitability, Products should be operated under anticipated working conditions prior to purchase.

This limited warranty applies to original purchasers only. Some states do not allow exclusion or limitation of incidental or consequential damages, so above limitation or exclusion may not apply. Further, some states do not allow exclusion of or limitation of how long an implied warranty lasts, so above limitation may not apply. This limited warranty gives original purchaser specific legal rights and the original purchaser may also have other rights which vary from state to state.

For information regarding this limited warranty, contact CMW's Technical Administration Department, P.O. Box 66, Perry, OK 73077-0066, or contact your local Ditch Witch dealer.

A Note To Ditch Witch

Equipment Owners:

If your equipment was purchased through a Ditch Witch dealer, there is no need to read further.

However, if you purchased from any other source, please fill out the form on the reverse side and return it to us.

This will enable you to receive updates on this equipment as well as information on new products of interest.

Thanks for using Ditch Witch equipment!

(Please Fold Along This Line And Seal At Bottom With Tape)



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Attention

Street Address or P.O. Box

City

County

State

Zip

Nation

()

Phone Number With Area Code

Machine Model

Serial Number

Attachments

Serial Number

Attachments

Serial Number

Attachments

Serial Number

Name of Ditch Witch Dealership

Your Signature

Thanks!

The Charles Machine Works, Inc.
Box 66
Perry, OK 73077-9989

