NEW HOLLAND

Service Manual

Stackcruiser® Self-Propelled Automatic Bale Wagon 1078, 1079 and 1085



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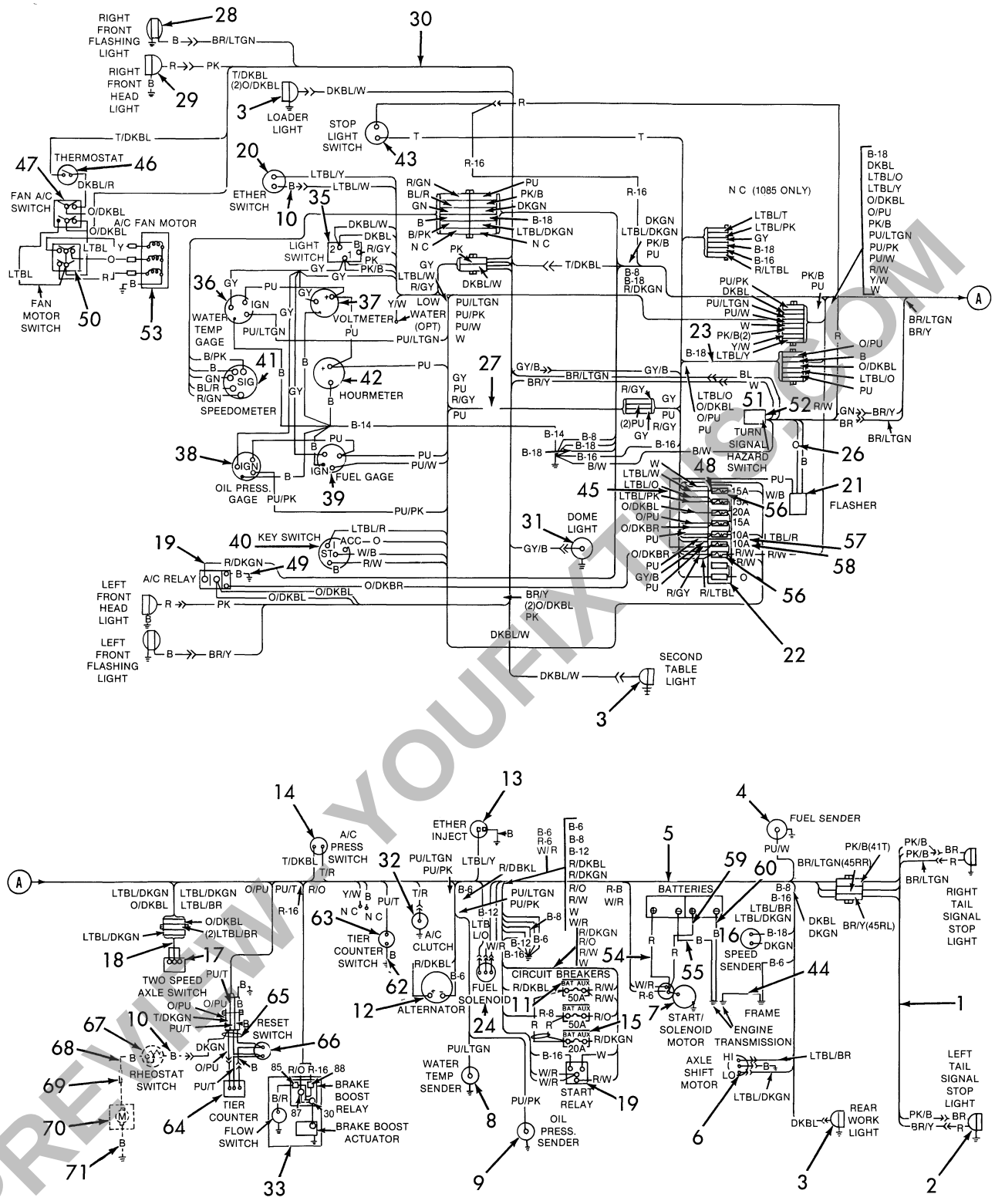
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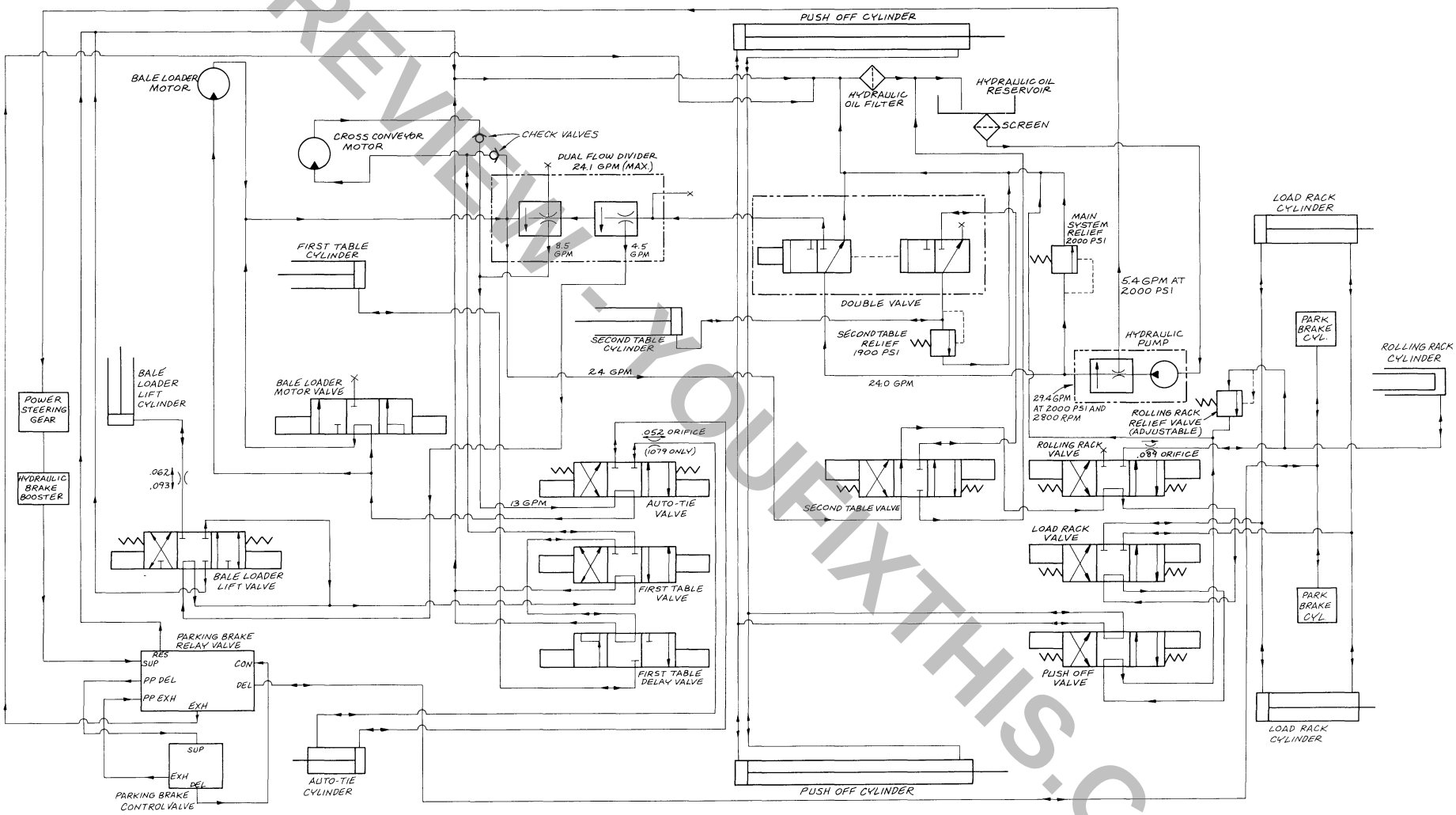
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6	SHIFT MOTOR A	21	FLASHER	36	TEMPERATURE GAUGE A	51	LIGHT BULB	66	SWITCH
7	STARTER 12V A	22	FUSE BLOCK	37	VOLTMETER A	52	DIR. SIGN. SWITCH	67	RHEOSTAT SWITCH
8	SENDER WATER TEMP.	23	WIRE HARNESS FUSE BLOCKS	38	OIL PRESSURE GAUGE A	53	MOTOR	68	WIRE
9	OIL PRESSURE SENDER	24	SOLENOID A	39	FUEL GAUGE A	54	BATTERY CABLE POS.	69	BUTT CONNECTOR
10	WIRE	25		40	SWITCH A IGN. AND STR.	55	BATTERY CABLE NEG.	70	HEATER ASSEMBLY
11	CIRCUIT BREAKER	26	UPPER COLUMN WA	41	SPEEDOMETER	56	FUSE 15 AMP.	71	WIRE ASSEMBLY
12	ALTERNATOR A	27	WIRE HARNESS CONTROL PANEL	42	HOURMETER A	57	FUSE 20 AMP.		
13	VALVE ASSEMBLY	28	LAMP A	43	SWITCH ASSY.	58	FUSE 10 AMP.		
14	PRESSURE SWITCH A	29	HEADLIGHT TERM A	44	STRAP GROUND	59	BATTERY CABLE POS.		
15	CIRCUIT BREAKER	30	WIRE HARNESS CAB	45	WIRE HARNESS	60	BATTERY CABLE NEG.		

FIGURE 9-1

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MODELS 1078/1079 HYDRAULIC SYSTEM OPERATION



MODELS 1078/1079 BALE WAGON HYDRAULIC DIAGRAM

FIGURE 8-1

Figure 8-1 is the hydraulic system diagram.

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CL-450/FS-4005 AND FS-3005 TRANSMISSION (DISASSEMBLED)

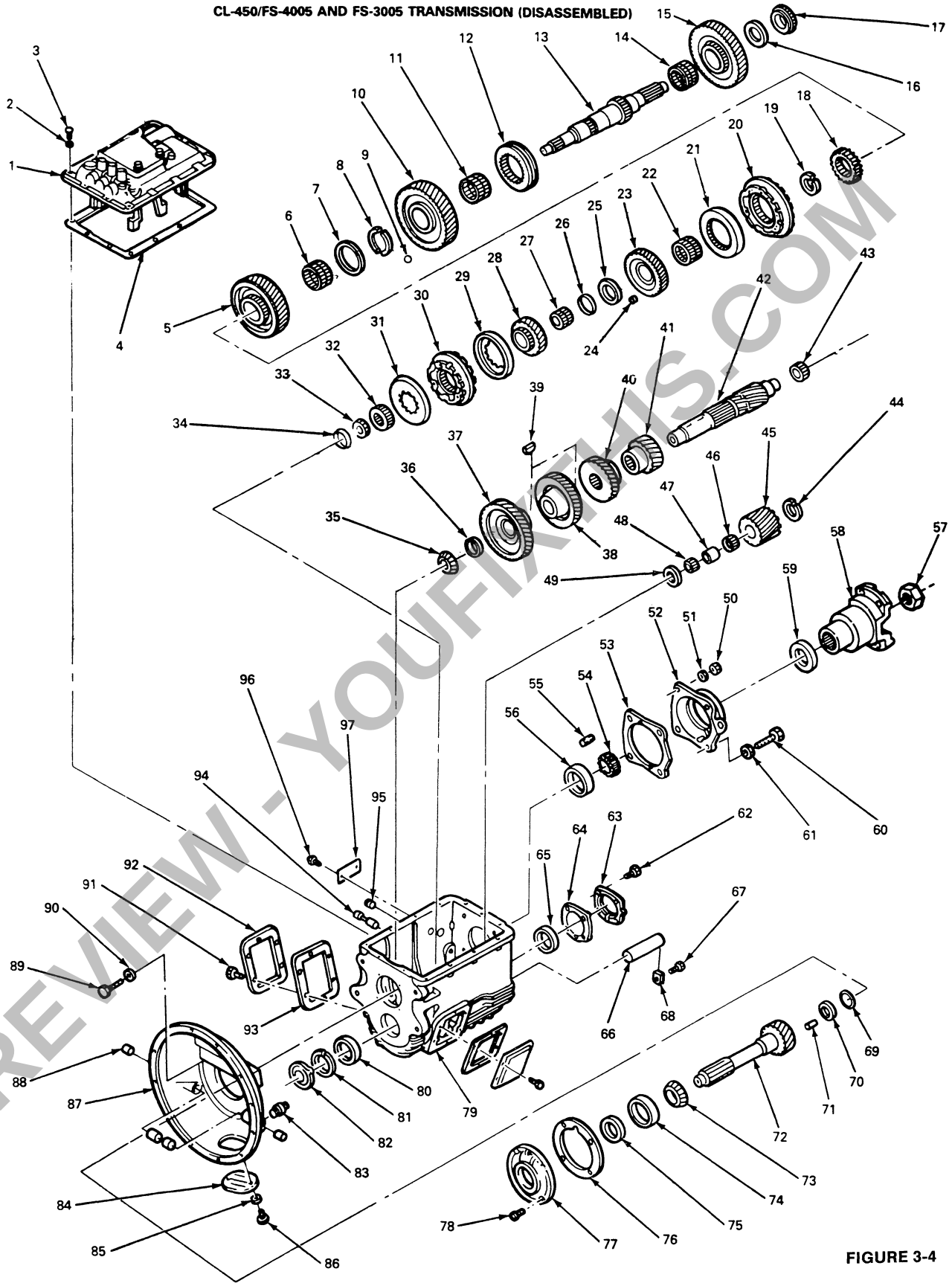


FIGURE 3-4

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MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METRES) FOR NORMAL ASSEMBLY APPLICATIONS

INCH HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	55*(6.2)	72*(8.1)	86*(9.7)	112* (13)	121* (14)	157* (18)	61*(6 9)	86*(9.8)	1/4
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)	5/16
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)	3/8
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)	7/16
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)	1/2
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)	9/16
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)	5/8
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)	3/4
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)	7/8
1	213 (289)	275 (373)	547 (742)	708 (960)	773(1048)	1000(1356)	386 (523)	545 (739)	1

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION

CAP SCREWS AND CARRIAGE BOLTS

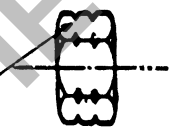


GRADE 2 SAE GRADE 5 SAE GRADE 8 SAE



REGULAR NUTS SAE GRADE 5 HEX NUTS SAE GRADE 8 HEX NUTS

LOCKNUTS



GRADE IDENTIFICATION

GRADE A NO NOTCHES

GRADE B ONE CIRCUMFERENTIAL NOTCH

GRADE C TWO CIRCUMFERENTIAL NOTCHES



GRADE IDENTIFICATION

GRADE A NO MARKS

GRADE B THREE MARKS

GRADE C SIX MARKS

MARKS NEED NOT BE LOCATED AT CORNERS



GRADE A NO MARK

GRADE B LETTER B

GRADE C LETTER C

GRADE IDENTIFICATION

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TROUBLESHOOTING

CLUTCH DIAGNOSIS

PROBLEM	POSSIBLE CAUSE	CORRECTION
Noisy clutch	Clutch release bearings dry or damaged.	Lubricate bearing with Multi-purpose Long-Life Lubricant C1AZ- 19590-B (ESA-M1C75-B) or equivalent, or replace.
	Flywheel pilot bearing dry or damaged.	Replace bearing.
Clutch dragging	Driven disc distorted or warped.	Replace disc.
	Internal clutch adjustment not correct.	Readjust clutch for standard release travel.
	Splines worn on main drive gear of transmission. Spline needs grease.	Replace drive gear and check driven disc hubs for excessive wear. If worn, replace disc. Check flywheel housing alignment of engine and transmission. Make sure driven discs slide freely on drive gear splines.
	Flywheel pilot bearing fitting too tightly in flywheel or on end of drive gear	Free pilot bearing to a light push. Fit in flywheel and on drive gear pilot. If bearing is rough, replace.
	Facings gummed with oil or grease.	Replace driven disc assembly. Cleaning not recommended.
	Damaged clutch release bearing.	Replace bearing.
	Clutch release shaft projecting through release yoke.	Relocate release shaft so it does not project.
Clutch pedal binding	Check pedal binding in pedal support due to lack of lubrication.	Lubricate pedal shaft and bushings in pedal support with Multi-Purpose Long-Life Lubricant C1AZ-19590-B (ESA-M1C75-B) or equivalent.
	Improper clutch adjustment.	Adjust clutch.
	Excessive clutch pedal free play.	Adjust free play.

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BACKLASH BETWEEN RING GEAR AND PINION

Backlash		Drive Gear Runout	
mm	inch	mm	inch
0.203-0.457	0.008-0.018	0.203 max.	0.008 max.

DRIVE PINION ADJUSTMENT SPECIFICATIONS

Drive Pinion Bearing Preload Adjustment

Pinion Bearing Spacer Thickness		Drive Pinion Nut Torque Setting	
mm	inch	N·m	Ft. lbs.
12.37-12.55	.487-.494	1000-1247	740-920

Arbor Press Preload Pressure Setting		Spring Scale Reading to Obtain .57-5.09 N·m (5-45 in. lbs.) Torque	
Metric Tons	U.S. Tons	N	Lbs.
5.4	6	6.67-60.5	1.5-13.6

Drive Pinion Position Adjustment

Pinion Bearing Cage Shim Pack		Nominal Pinion Mounting Distance	
mm	inch	mm	inch
0.71	0.028	198.75	7.875

AXLE LUBRICANT CAPACITIES

Approximate Capacity		
U.S. Pints	Imperial Pints	Liters
30	25	14

Use multigrade oils meeting specification M1L-2015-C or equipvalent. For the operating temperature range, refer to the following:

Grade	Ambient Temperature Range
75W	-40° F to -15° F (-40° C to -26° C)
80W-90	-15° F to 100° F (-26° C to 38° C)
80W-140	-15° F and above (-26° C and above)
85W-140	-10° F and above (-12° C and above)

AXLE IDENTIFICATION

Two rear axle ratios have been used.

6.50/9.07
6.83/9.53

The axle ratio is identified on the axle as shown in Figure 4-103.

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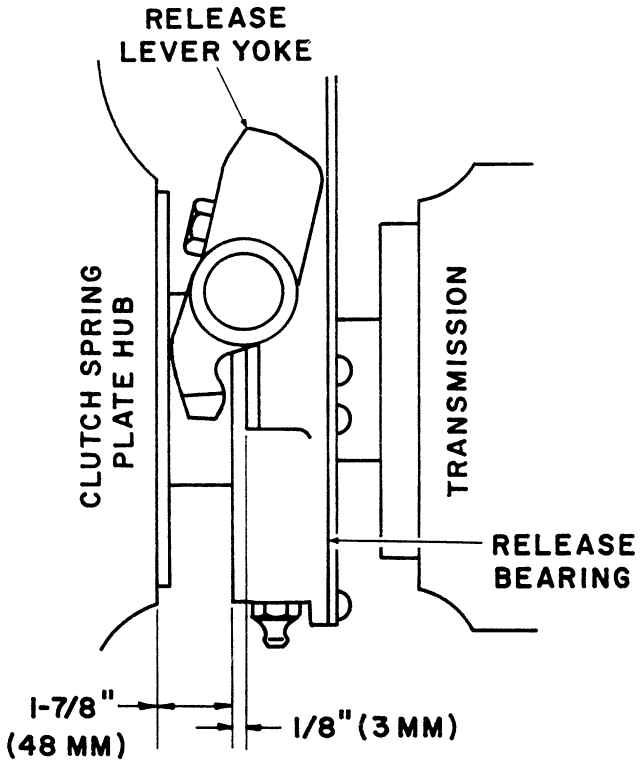


FIGURE 2-1

2. Measure the distance between the release bearing and the clutch spring plate hub. The dimension between the release bearing and the clutch housing should be 1⅞" (48 mm).
3. Adjust the clutch assembly by rotating the engine flywheel until the adjusting ring lock and bolt are exposed. Remove the bolt and lock, Figure 2-2.
4. Hold or block the clutch pedal in the released position.
5. Use a pry bar to turn the adjusting ring, Figure 2-2, counterclockwise (looking from rear of vehicle) to move the release bearing toward the flywheel or clockwise to move the release bearing away from the flywheel. Rotation or movement of one lug position will move the release bearing approximately 1/32" (0.79 mm).
6. Remove the clutch pedal block to engage the clutch.
7. Recheck the clearance as outlined in Step 2. Readjust if necessary. Check clutch pedal free travel. If it is not within specifications, then a linkage adjustment should be made.
8. Adjust the slave cylinder turnbuckle to provide a ⅛" (3.17 mm) clearance between the release yoke fingers and the release bearing, Figure 2-1.

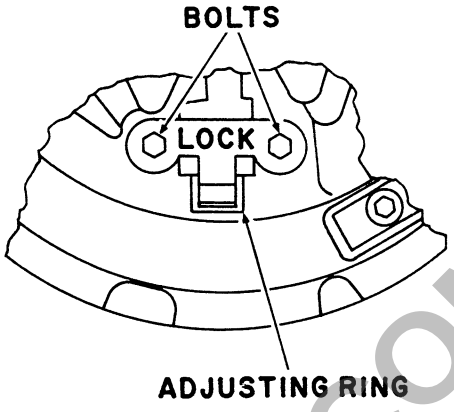


FIGURE 2-2

CLUTCH PEDAL FREE PLAY

NOTE: Before making any adjustments, be sure that the system is free of air and the master cylinder is filled with clean brake fluid.

Adjust the eccentric bolt, Figure 2-3, so that the pushrod has 0.01"-0.09" (0.25 mm-2.29 mm) free play to the master cylinder piston.

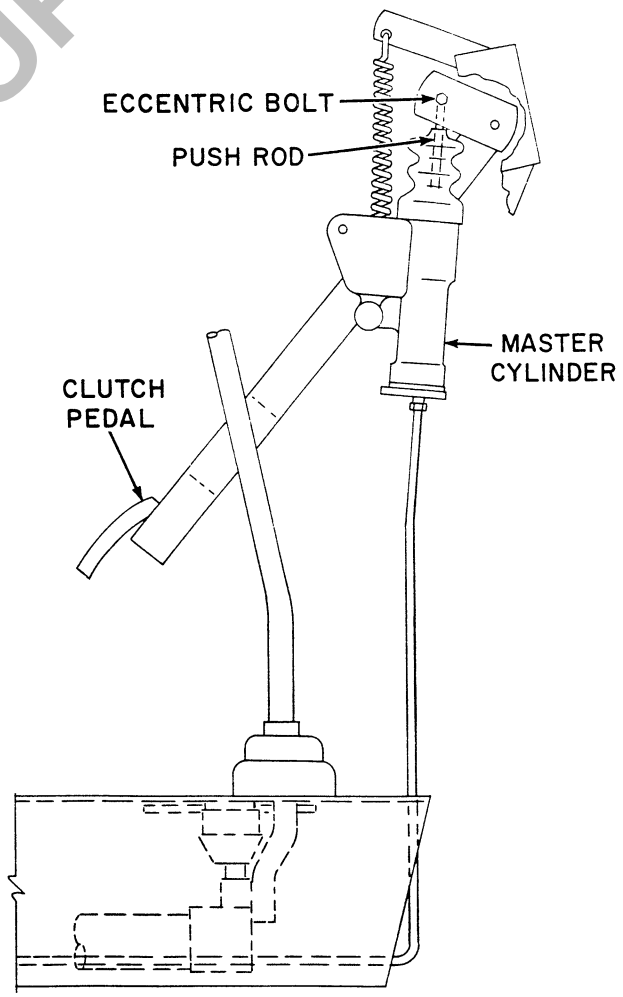


FIGURE 2-3

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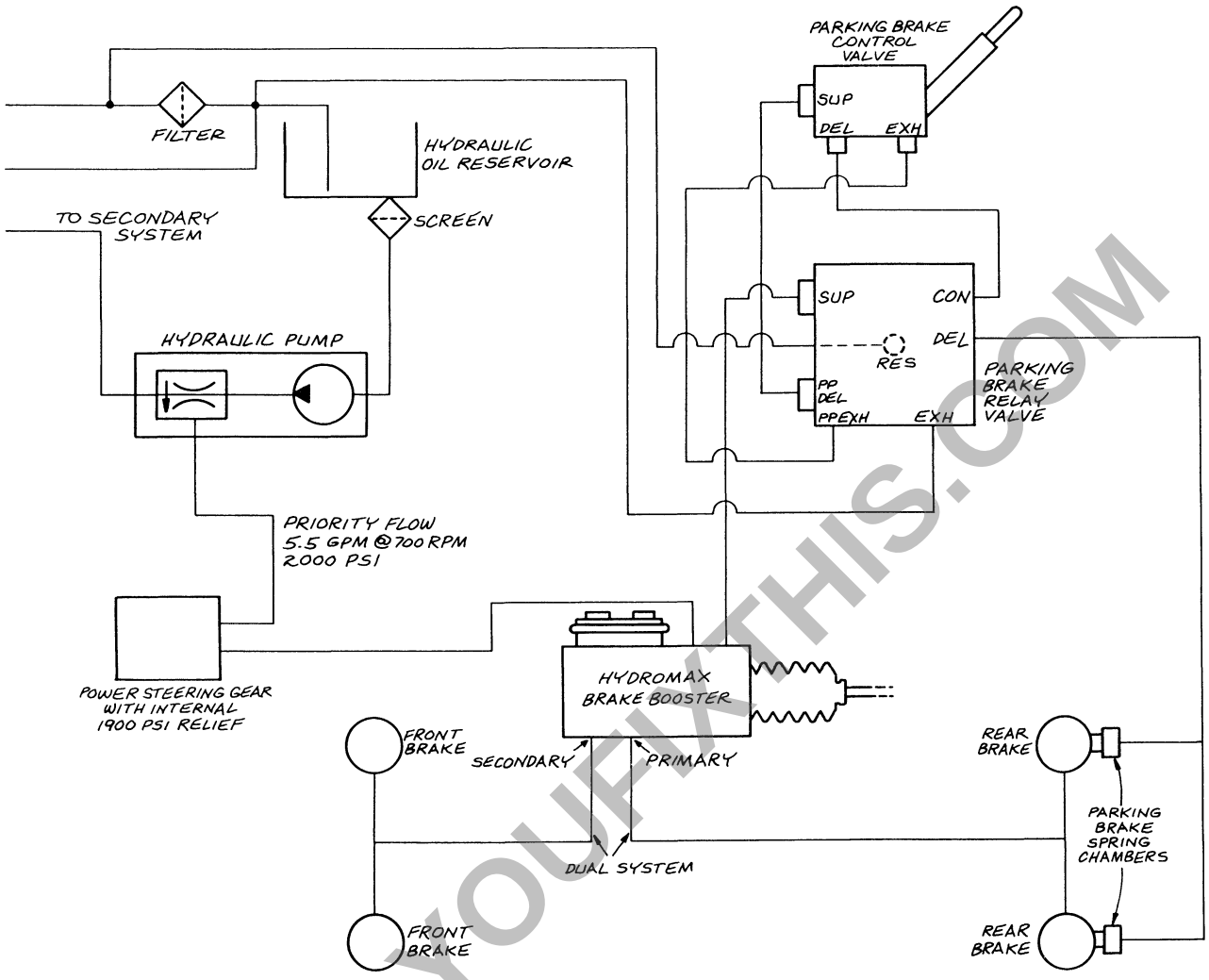


FIGURE 6-1

DESCRIPTION AND OPERATION

Hydraulic Brake System

Figure 6-1.

The brake system consists of a service brake system and a parking brake system.

The service brake system consists of:

- Hydro-Max booster and mini-master cylinder
- Front drum brakes
- Rear drum brakes

The parking brake consists of:

- Parking brake control valve
- Parking brake unitized valve
- Parking brake spring chambers

The hydraulic brake system consists of two separate fluid systems, the service brake master cylinder system and the Hydro-Max booster/parking brake system, that use two distinctly different, incompatible hydraulic fluids. DO NOT MIX THESE FLUIDS.

Service Brake Master Cylinder System

The service brakes master cylinder system operates the front disc brakes and rear drum brakes and requires DOT-3 brake fluid. Always use new, clean fluid dispensed from a clean, tightly sealed container. Do not reuse brake fluid removed from a vehicle. The service brake system is filled through the plastic reservoir (accessible under the floor mat to the left of the operator's seat) of the master cylinder which is labeled "FILL ONLY WITH DOT–3 TYPE BRAKE FLUID."

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CL-450/FS-4005 AND FS-3005 TRANSMISSION -- DISASSEMBLED (LEGEND)

Item	Description	Qty.
1	Control cover assembly	1
2	Control cover screw lock washer	13
3	Control cover screw	13
4	Control cover gasket	1
5	Main shaft 2nd gear	1
6	Main shaft 2nd gear roller bearing	1
7	Split washer retainer ring	1
8	Main shaft 2nd gear split washer	2
9	Spit washer lock ball	1
10	Main shaft 1st gear	1
11	Main shaft 1st and reverse shift hub	1
12	Main shaft 2st and reverse shift hub	1
13	Main shaft	1
14	Main shaft reverse gear roller bearing	1
15	Main shaft reverse gear	1
16	Main shaft rear bearing thrust washer	1
17	Main shaft rear bearing cone	1
18	2nd and 3rd shift hub sleeve	1
19	2nd and 3rd shift hub sleeve retainer ring	1
20	2nd and 3rd synchronizer assembly	1
21	3rd gear synchronizer cup	1
22	Main shaft 3rd gear bearing	1
23	Main shaft 3rd gear	1
24	Main shaft 3rd gear locating washer ball	1
25	Main shaft 3rd gear locating washer	1
26	3rd gear locating washer retaining ring	1
27	Main shaft 4th gear bearing	1
28	Main shaft 4th gear	1
29	4th and 5th synchronizer cup	1
30	4th and 5th synchronizer assembly	1
31	4th and 5th synchronizer cup	1
32	4th and 5th shift hub sleeve	1
33	4th and 5th shift hub thrust bearing	1
34	4th and 5th shift hub thrust bearing race	1
35	Countershaft front bearing cone	1
36	Countershaft drive gear retaining ring	1
37	Countershaft drive gear	1
38	Countershaft 4th gear	1
39	Countershaft gear key	2
40	Countershaft 3rd gear	1
41	Countershaft 2nd gear	1
42	Countershaft	1
43	Countershaft rear bearing cone	1
44	Reverse idler thrust washer	1
45	Reverse idler gear	1
46	Reverse idler gear bearing	26
47	Reverse idler gear bearing spacer	1
48	Reverse idler gear bearing	26
49	Reverse idler thrust washer	1
50	Main shaft rear bearing cap nut	4
51	Main shaft rear bearing cap washer	4
52	Main shaft rear bearing cap	1
53	Main shaft rear bearing cap shim	AR
54	Rotor	1
55	Main shaft rear bearing cap stud	4
56	Main shaft rear bearing cup	1
57	Main shaft flange nut	1
58	Yoke	1
59	Main shaft rear bearing cap oil seal	1
60	Main shaft rear bearing cap bolt	4
61	Main shaft rear bearing cap bolt washer	4
62	Countershaft rear bearing cap screw	4
63	Countershaft rear bearing cap	1
64	Countershaft rear bearing cap shim	AR
65	Countershaft rear bearing cup	1
66	Reverse idler shaft	1
67	Reverse tab lock screw	1
68	Reverse idler shaft lock	1
69	Main shaft roller bearing washer retainer ring	1
70	Main shaft roller bearing washer	1
71	Main shaft roller bearing	14
72	Main drive gear	1
73	Main drive gear bearing cone	1
74	Main drive gear bearing cup	1
75	Main drive gear bearing cap oil seal	1
76	Main drive gear bearing cap gasket	1
77	Main drive gear bearing cap	1
78	Main drive gear bearing cap screw	4
79	Transmission case	1
80	Countershaft front bearing cup	1
81	Countershaft front bearing race locating ring	1
82	Countershaft front bore plug	1
83	Clutch shaft grease fitting	2
84	Clutch housing cover	1
85	Clutch housing cover screw lock washer	2
86	Clutch housing cover screw	2
87	Clutch housing	1
88	Clutch pedal shaft bushing	4
89	Clutch housing to case screw	4
90	Clutch housing to case screw lock washer	4
91	PTO cover lock screw	12
92	PTO cover plate	2
93	PTO cover plate gasket	2
94	Magnetic drain plug	1
95	Filler plug	1
96	Name plate screw	2
97	Name plate	1

AR-As Required

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PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION: THE WORD "CAUTION" IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.



WARNING: THE WORD "WARNING" DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.



DANGER: THE WORD "DANGER" DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", AND "DANGER" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

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PARTS INSPECTION

NOTE: Two axle ratios have been used - 6.83/ 9.53; 6.50/9.07. Determine which ratio is present before replacing parts.

An inspection of the adjustments and parts of the carrier as it is being disassembled can assist in locating the cause of trouble and in determining what corrections are needed.

Paint the gear teeth with white lead or other suitable material and roll a pattern. Diagnose the pattern and then make the appropriate adjustments as indicated.

The correct tooth contact pattern is considered to be the final check on pinion depth and backlash adjustments. Backlash adjustments, however, must be within the limits given in the specifications for the particular axle involved.

Figure 4-4 shows typical patterns. Figure 4-5 shows common Rockwell patterns.

Due to minor differences between individual gear sets, the illustrated patterns should be considered as typical only and should be used as a guide rather than a rigid standard. The drive pattern is rolled on the convex side of the ring gear tooth, and the coast pattern is rolled on the concave side.

In general, desirable tooth patterns should have the following characteristics:

1. The drive pattern should be fairly well centered on the tooth.
2. The coast pattern should be centered on the tooth but may be sightly toward the toe.
3. Some clearance between the pattern and the top of the tooth is desirable.
4. There should be no hard lines where the pressure is high.

The pattern changes with adjustments in backlash and pinion depth are typical of all axle gears, hypoid or spiral bevel.

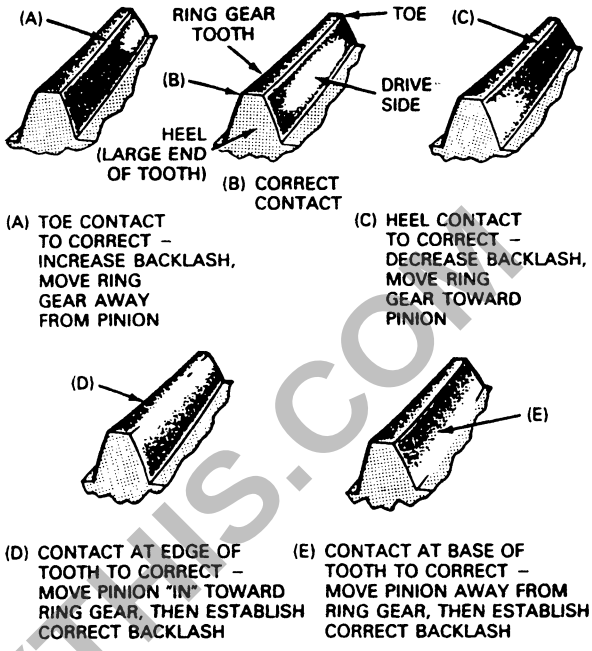
The adjustment of tooth contact patterns can be summarized as follows:

a. Decreasing backlash moves the ring gear closer to the drive pinion:

Drive pattern (convex side of gear) moves slightly lower and toward the toe.

Coast pattern (concave side of gear) moves lower and toward the toe.

b. Increasing backlash moves the ring gear away from the drive pinion:



NOTE: CONTACT PATTERNS (A), (C), (D) AND (E) INDICATE INCORRECT PLACEMENT OF SHIMS AND WILL RESULT IN NOISE AND GEAR FAILURE. PATTERN (B) SHOWS CORRECT CONTACT PATTERN. THE ABOVE RING GEAR TOOTH CONTACT PATTERNS ON THE DRIVE SIDE WOULD BE MADE UNDER LOAD CONDITIONS ONLY (ACTUAL OPERATION). DO NOT ATTEMPT TO CHECK A NEW INSTALLATION FOR CORRECT CONTACT UNDER NO LOAD CONDITIONS. TOOTH CONTACT WILL BE CORRECT AS SHOWN AT (B) IF SHIMS HAVE BEEN PROPERLY INSTALLED

FIGURE 4-4

Drive pattern moves slightly higher and toward the heel.

Coast pattern moves higher and toward the heel.

c. Thinner shim with the backlash constant moves the drive pinion closer to the ring gear:

Drive pattern moves deeper on the tooth (flank contact) and slightly toward the toe.

Coast pattern moves deeper on the tooth and toward the heel.

d. Thicker shim with the backlash constant moves the drive pinion further from the ring gear:

Drive pattern moves toward the top of the tooth (face contact) and toward the heel.

Coast pattern moves toward the top of the tooth and slightly toward the toe.

If the patterns are not correct, make the changes as indicated. The pinion need not be disassembled to change a shim.

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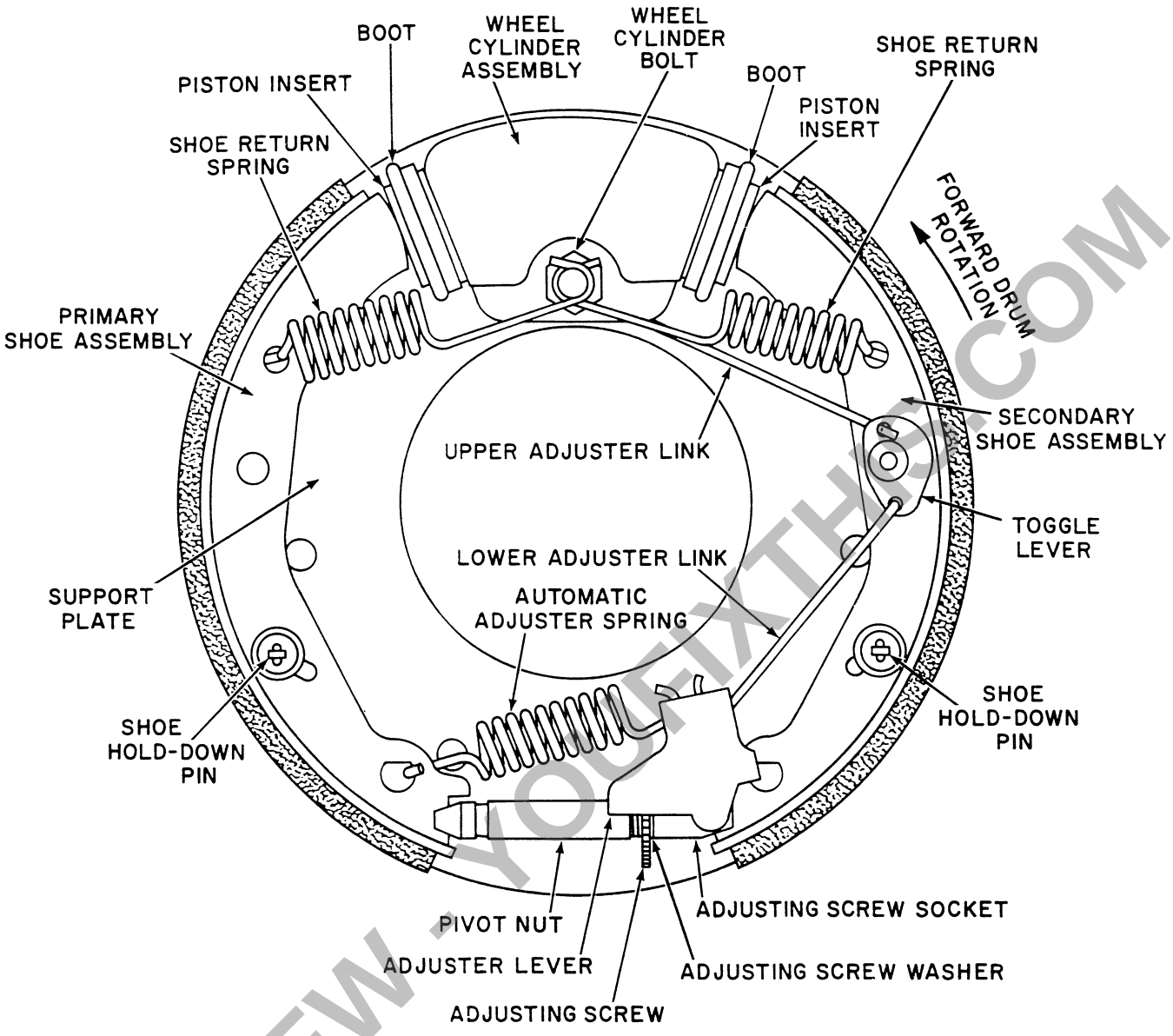


FIGURE 6-11

Front Brake

On brake pedal application, the brake fluid forced into the cylinder assembly, Figure 6-11, forces the brake shoes out against the drum. When the shoes contact the drum, they are forced around in the direction of rotation. The end of the shoe being forced against the adjuster pushes the rear of the other shoe outward.

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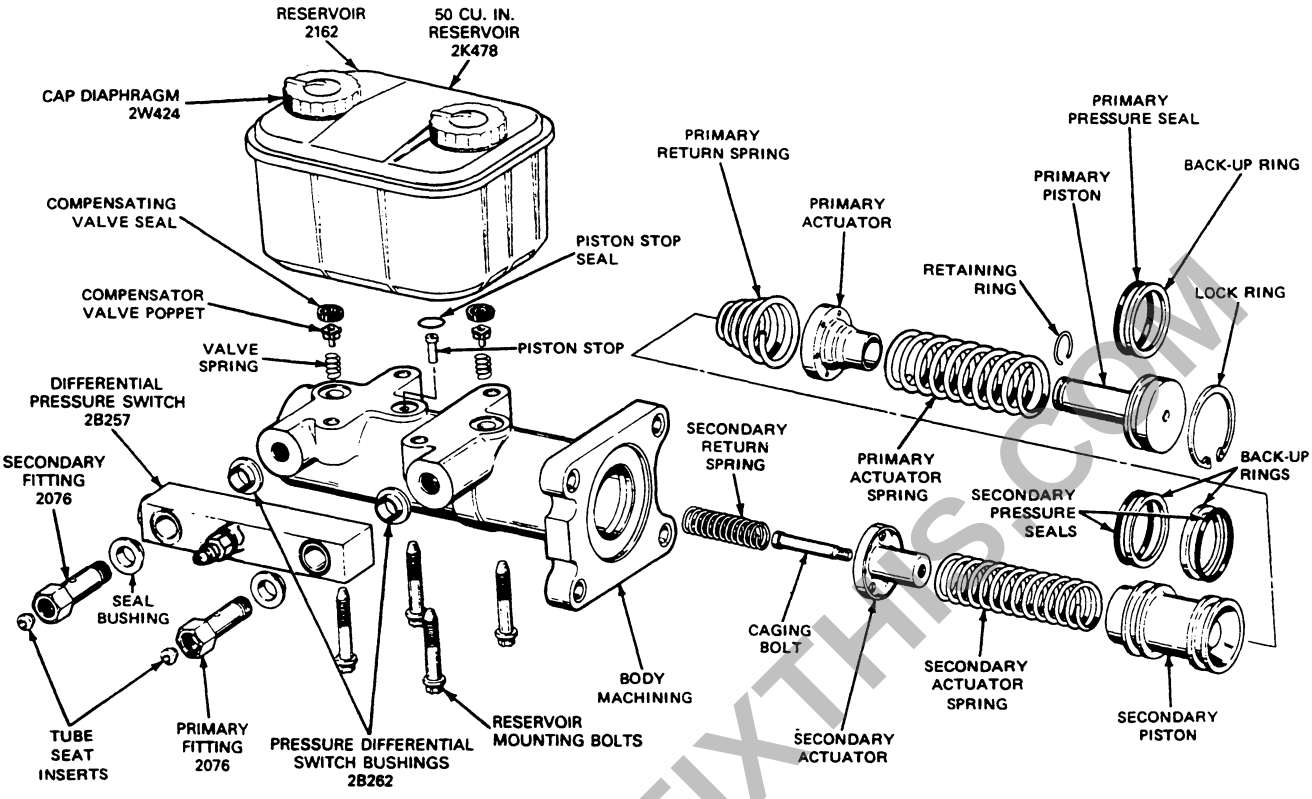


FIGURE 6-62

MASTER CYLINDER

Figure 6-62

Disassembly

1. Remove the reservoir caps and drain the fluid from the reservoir.
2. Remove the four bolts that secure the body to the reservoir.
3. Remove the small O ring and the two compensating valve seals from the recessed areas on the bottom side of the reservoirs.
4. Depress the primary piston, using a suitable tool 1.00 ± 0.5". (Spring loads are approximately 90 lbs. It is very difficult to depress piston by hand). Then remove the compensating valve poppets and the compensating valve springs. Remove the piston stop pin from its bore in the master cylinder body.
5. Using snap ring pliers, remove the snap ring at the end of the master cylinder bore. Then release the piston and remove the primary and secondary piston assemblies from the cylinder bore. It may be necessary to plug the front outlet port and to apply low air pressure to the front compensating valve port to remove the secondary piston assembly.

WARNING: IF AIR PRESSURE IS USED TO REMOVE THE SECONDARY PISTON, PLACE THE OPEN END OF THE CYLINDER BORE APPROXIMATELY 1" FROM A PADDED WORKBENCH OR OTHER SURFACE TO CATCH THE PISTON WHEN IT COMES OUT OF THE BORE. APPLY LOW AIR PRESSURE VERY CAREFULY TO EASE THE PISTON OUT OF THE BORE. NEVER POINT THE OPEN END OF THE BORE AT ANYONE WHEN APPLYING AIR PRESSURE. THE PISTON MAY COME OUT OF THE BORE WITH CONSIDERABLE FORCE AND CAUSE PERSONAL INJURY.

6. Remove the differential pressure valve.
7. Remove tube seat inserts with a screw extractor.

Cleaning and Inspection.

Wash all parts to be reused in clean heavy duty brake fluid. Be sure that all foreign matter is removed from the filters in the bottom of the reservoir. If the filters do not clean up, they must be replaced.

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Final Adjustment

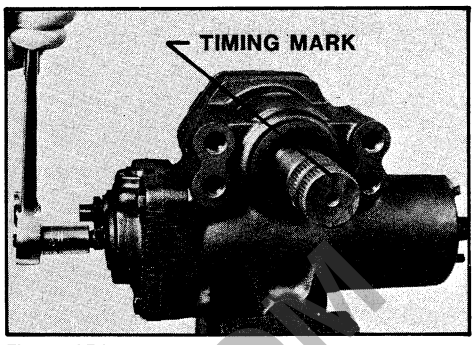


Figure 151

center steering gear

1. To center the steering gear, rotate worm shaft/input shaft (14) until the timing mark on the end of sector shaft (42) is perpendicular to the worm shaft/input shaft (FIG. 151). A 12 point 11/16 or 3/4 box end or socket required.

CAUTION

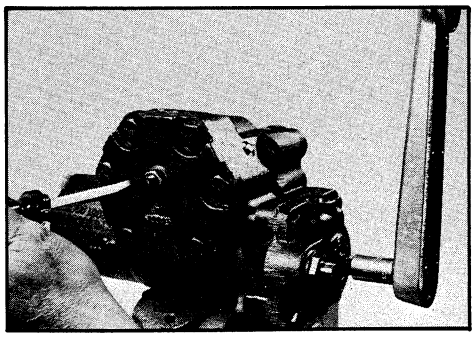
CAUTION: Do not allow the worm shaft/input shaft on a steering gear with the automatic poppet adjustment feature to rotate more than 1.5 revolutions from the center position while steering gear is not completely installed in the vehicle as this could disrupt the poppet adjustment achieved at initial installation or the poppet adjustor seat and sleeve assembly that has been set for automatic poppet adjustment after installation.

NOTE

NOTE: Initial worm preload was accomplished in assembly procedure 35, page 43, before assembly of sector shaft (42).

tighten adjusting screw

2. Tighten sector shaft adjusting screw (43) to provide 25 to 30 inch lbs. (2.8 to 3.4 N m) of torque required to rotate the worm shaft/input shaft (14) through 180° each side of center (FIG. 152).


Figure 152

NOTE

NOTE: This procedure will properly mesh and seat the rack piston teeth and sector shaft teeth for final adjustments.

loosen adjusting screw and note torque

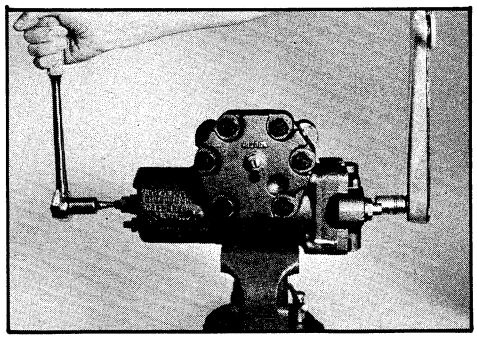
3. Loosen sector shaft adjusting screw (43) one turn and note maximum torque required to rotate the worm shaft/input shaft (14) through 180° each side of center.

adjust adjusting screw

4. Adjust sector shaft adjusting screw (43) to increase maximum torque noted in procedure #3 by 2 to 4 inch lbs. (.23 to .45 N m). Torque jam nut (51) using a 3/4 inch socket, to 40 to 45 ft. lbs. (54 to 61 N m) and check worm shaft/input shaft torque again. Re-adjust if worm shaft/input shaft torque exceeds 20 inch lbs. (2.3 N m).

adjust worm shaft/input shaft adjusting screw

5. Adjust worm shaft/input shaft adjusting screw (40), a 1/4 inch Allen wrench or screwdriver required, to increase maximum worm shaft/input shaft (14) torque noted in procedure #4 by 10 to 15 inch lbs. (1.1 to 1.7 N m). Torque sealing nut (41) to 45 ± 5 ft. lbs. (61 ± 7 N m) using a 7/8 inch socket and check worm shaft/input shaft torque again. Readjust if worm shaft/input shaft torque exceeds 35 inch lbs. (4.0 N m). (FIG. 153).


Figure 153

This completes the final adjustments of the HFB52 gear to be made before it is installed into the vehicle's steering system. Install the gear by following instructions in the vehicle shop manual. Then follow the succeeding sections of this service manual (HFB52) on "HYDRAULIC FLUID" and "FILLING AND AIR BLEEDING THE SYSTEM" which also includes instructions for adjustment of the optional adjustable poppet valve.

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1085 LINKAGE

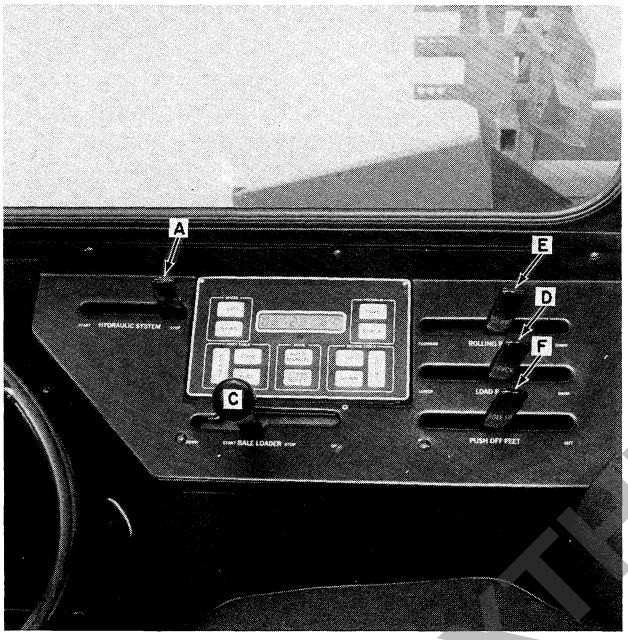


FIGURE 8-43

DANGER: SHUT OFF THE POWER AND BLOCK ANY RAISED TABLES BEFORE MAKING ANY ADJUSTMENTS.

MANUAL CONTROLS

Hydraulic System Shutoff

Figures 8-43 and 8-44

Adjust lever, A, at the pivot block at the lower end to place the lever within ⅛"-¼" (3 mm-6 mm) from the rear of the slot in the control panel when the system shutoff valve spool is all the way forward and the system is off. Make sure that the hydraulic shutoff gate, B, Figure 8-45, at the cab door will move the shutoff lever, A, to the rear when dropped.

Auto-Tie, Load Rack, Rolling Rack and Push-Off

Figures 8-43 and 8-44

Center levers, C, G, H and I, in the slots on the control console by adjusting at the pivot blocks at the lower ends of the levers underneath the cab. The valve spools must center automatically when the levers are released. If the spools and levers do not center when released, check for bent linkage or binding pivots.

WARNING: NEVER TURN ON THE HYDRAULIC SYSTEM OR RAISE THE SHUTOFF GATE EXCEPT WHEN SEATED IN THE OPERATOR'S CAB.

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SECTION 10
1085 PROGRAMMABLE CONTROLLER
INTRODUCTION

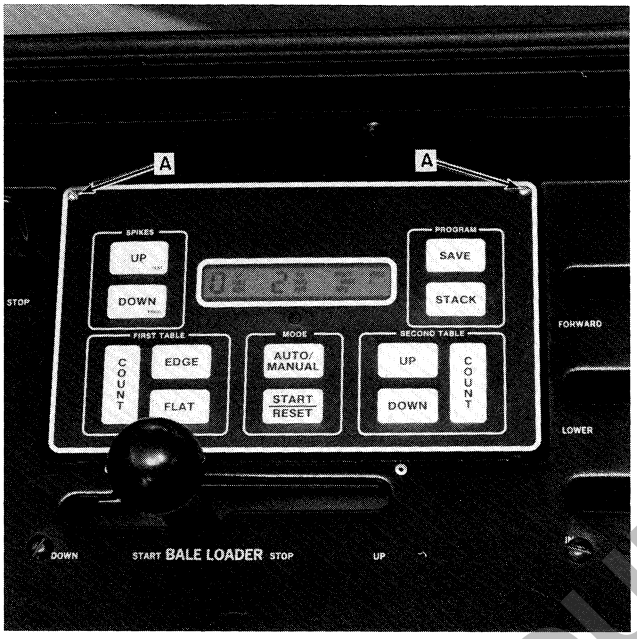


FIGURE 10-1

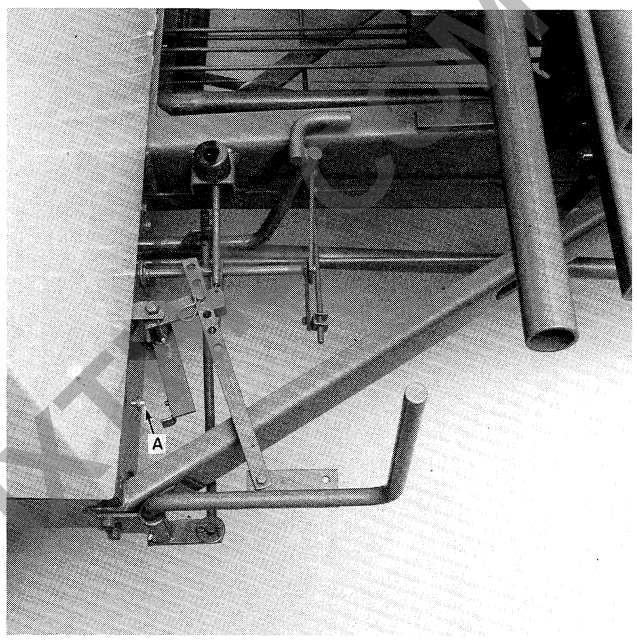


FIGURE 10-2

ELECTRONIC SYSTEM OPERATION

The Model 1085 automatic bale wagon utilizes a solid-state electronic control system which controls the functions of the first table, second table, the tie spikes, and cross conveyor. The programmable controller, Figure 10-1, also allows an operator to select fifteen different stack configurations.

Ten solid-state sensors are used to track bale and table movements. These sensors tell the controller what the machine is doing at any given time.

Within the controller are two different voltage levels - 5 volts used for the sensors and all logical operations and 12 volts to operate the solenoid coils that activate hydraulic valves.

SENSOR DESCRIPTION

The sensors are completely sealed in a threaded aluminum bushing and are operated by the south pole of a magnet. The sensors (switches) used on the machine are semiconductor switches based on the "HALL" effect. The "HALL" effect is an increase in voltage within the sensor when it is subjected to a magnetic field which causes it to switch on or off.

SENSOR LOCATION AND FUNCTIONS

1. Left side sensor, A, Figure 10-2 - located under the far left of the first table on the cab back, it senses when a bale has reached the left side of the first table and reverses the cross conveyor. It also delivers the first table on the center bale of the tie tiers and stops the cross conveyor.

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