General Specifications

MEGA 300-III		
Item		**Specification**
Standard Bucket Capacity		2.4 m^3 (3.14 yd^3) Level 2.9 m^3 (3.79 yd^3) Heaped
Vehicle Weight		16,900 kg (37,258 lb)
Engine		
	Type	Daewoo D2366T
	Horsepower	208 ps (205 Hp) @ 2,200 RPM
	Max. Torque	83 kg m (600 ft lb) @ 1,300 RPM
Transmission		
	Type	Full Power Shift
	Speeds	4 Forward, 3 Reverse
Brake Systems		
	Travel Brakes	4 Wheel, Wet Disk
	Parking Brake	Drive Shaft Brake
Performance		
	Travel Speed	6 – 38 km/h (3.7 – 23.6 mph)
	Braking Distance	13.7 m @ 38 km/h (No Load) 45 ft @ 23.6 mph
	Steering Angle	± 40°
	Min. Tire Turning Radius	5,472 mm (17' 11")
	Service Load	5,220 kg (11,508 lb)
	Max. Excavation Performance	11,852 kg (26,129 lb)
	Bucket Rise Time	5.6 Seconds
	Bucket Dump Time	1.3 Seconds
	Bucket Descent Time	3.5 Seconds
	Max. Gradeability	58% (30°)
Static Tipping Load		
	Bucket Straight Ahead	12,415 kg (27,370 lb)
	Bucket Fully Turned	10,713 kg (23,618 lb)

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Maintenance Intervals

Daily or Every 10 Operating Hours

- Grease Bucket Hinge Pins
- Grease Rod and Head Ends of Bucket Cylinders
- Grease Head Ends of Lift Cylinders
- Grease Loader Arm Feet
- Grease Arm-Lever Connecting Pins
- Grease Lift Cylinder Rods
- Check Engine Oil Level
- Check Transmission Oil Level
- Check Hydraulic System Oil Level
- Refill Fuel
- Drain Fuel Condensation
- Check Coolant Level
- Check Air Filter Indicator

Weekly or Every 50 Operating Hours

- Perform All Daily Service Checks
- Grease Rear Axle Pivot
- Grease Steering Cylinder Rods
- Steering Cylinder Head Ends
- Change Engine Oil and Filter*
- Replace Transmission Oil Filter*
- Hydraulic Full Flow Filter Replacement*
- Check Fan Belt Tension
- Clean Exterior of Radiator and Oil Cooler

*New Machine Break-in

Every 250 Operating Hours

- Perform All Daily and 50 Hour Service Checks
- Grease Upper and Lower Center Pins
- Grease Cooling Fan and Water Pump Pulley
- Replace Hydraulic System Pilot Filter
- Clean Air Cleaner
- Change Engine Oil and Filter
- Replace Transmission Oil Filter
- Hydraulic Full Flow Filter Replacement

Every 500 Operating Hours

- Perform All 10, 50 and 250 Hour Service Checks
- Grease Center Bearing of Front Drive Shaft
- Grease Both Universal Joints for Front Drive Shaft
- Grease Spline for Front Drive Shaft
- Grease Both Universal Joints for Rear Drive Shaft
- Grease Spline for Rear Drive Shaft
- Replace Fuel Filter Element

Every 1,000 Operating Hours

- Perform All 10, 50, 250, and 500 Hour Service Checks
- Center Axle and Axle End Oil Check
- Drain and Replace Hydraulic Oil
- Drain and Replace Transmission Fluid
- Clean Fuel Tank and Strainer
- Replace Air Cleaner Element
- Change Radiator Coolant

Every 1,500 Operating Hours

- Perform All 10, 50, 250, and 500 Hour Service Checks
- Center Axle and Axle End Oil Replacement

Annually or Every 2,000 Operating Hours

- Replace Wheel Brake Hoses, Steering Cylinder Hoses

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Weekly or Every 50 Operating Hours

Perform All Daily Service Checks

Change Engine Oil and Filter

Engine oil and filter must be changed after the first 50 hours of operation to comply with the new machine break-in requirements. After the first change, oil and filter should be changed every 250 hours.

⚠CAUTION!!!

Never attempt to change oil or filter on a hot engine. Hot oil could splash and cause burns. Allow the engine to cool down before changing oil or filter.

1. Position a container to catch the drain oil beneath the engine oil filter. See Figure 3-21.

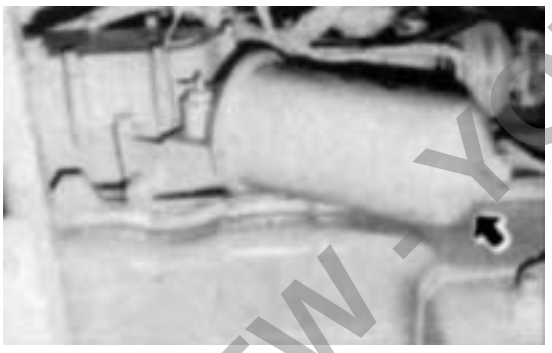


FIGURE 3-21 2835

2. Remove the drain plug from the bottom of the filter. Allow the oil to drain into the catch container.
3. Remove the bolt from the filter outer cover. Remove the cover, cover O-ring, and filter element.
4. Discard the filter element. Use a nonflammable, non-toxic solvent to clean the inside of the filter cover. Also clean the cover O-ring.
5. Insert a new filter element into the cover.
6. Insert the bolt through the center of the filter cover.
7. Install the O-ring on the cover.
8. Place the filter cover into position on the engine. Tighten the bolt to hold the filter cover to the engine. Tighten the drain plug in the filter cover.

NOTE

The engine oil capacity is 21 l (22 qt). The filter holds an additional 1 l (1 qt) of oil.

9. Position the catch container beneath the engine crankcase drain plug. See Figure 3-22. Remove the drain plug and allow all engine oil to drain out.



FIGURE 3-22 2836

10. Install the drain plug. Fill the engine with new oil of the type specified in the Table of Recommended Lubricants.

Replacing Transmission Oil Filters

The transmission oil filter must be changed after the first 50 hours of operation to comply with the new machine break-in requirements. After the first change, the filter must be changed every 500 hours.

1. Rotate the filter counterclockwise to remove it.
2. Clean the filter head.
3. Grease the filter gasket and the gasket mating surface on the filter head.
4. Thread the filter onto the filter head. Tighten the filter 1/2 turn after the filter gasket contacts the filter head. The filter should be torqued to 1.6 to 2.1 kg m (11.5 to 15 ft lb).
5. Start the engine and allow it to run until warmed up. Check the filter for leaks while the engine is running.

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Control Valve

Disassembly

Figure 4-5 contains an exploded view of the transmission control valve. The index numbers in the figure correlate to the index numbers used in the disassembly and assembly steps that follow.

1. Remove the gasket (1, Figure 4-5), cover plate (2), and gasket (3).

1. Valve Gasket
2. Cover Plate
3. Valve Gasket
4. Check Ball
5. Check Ball
6. Check Ball
7. Spring
8. Spring
9. Spring
10. Threaded Plug
11. Threaded Plug
12. O-ring
13. O-ring
14. Spring
15. Spring
16. Check Ball
17. Check Ball
18. Bolt
19. Cover
20. Valve Body
21. Cover Gasket
22. Spring
23. Stop Washer
24. Spool
25. Spring
26. Piston
27. Spool
28. Washer
29. Washer
30. Shaft Seal
31. Snap Ring
32. Stop Plate
33. Detent Block
34. Spool
35. Washer
36. Washer
37. Shaft Seal
38. Snap Ring
39. Snap Ring
40. Piston
41. Stop Plate
42. Detent Block
43. Spool
44. O-ring
45. Set Screw
46. Plug
47. Valve Block
48. O-ring
49. Spring
50. Spool
51. Bolt
52. Bolt
53. Bolt
54. Bolt
55. Gasket
56. Spring
57. Check Ball
58. Set Screw
59. Threaded Plug
60. O-ring
61. Threaded Plug
62. O-ring
63. Threaded Plug
64. O-ring
65. Threaded Plug
66. O-ring
67. Threaded Plug
68. O-ring
69. Threaded Plug
70. O-ring

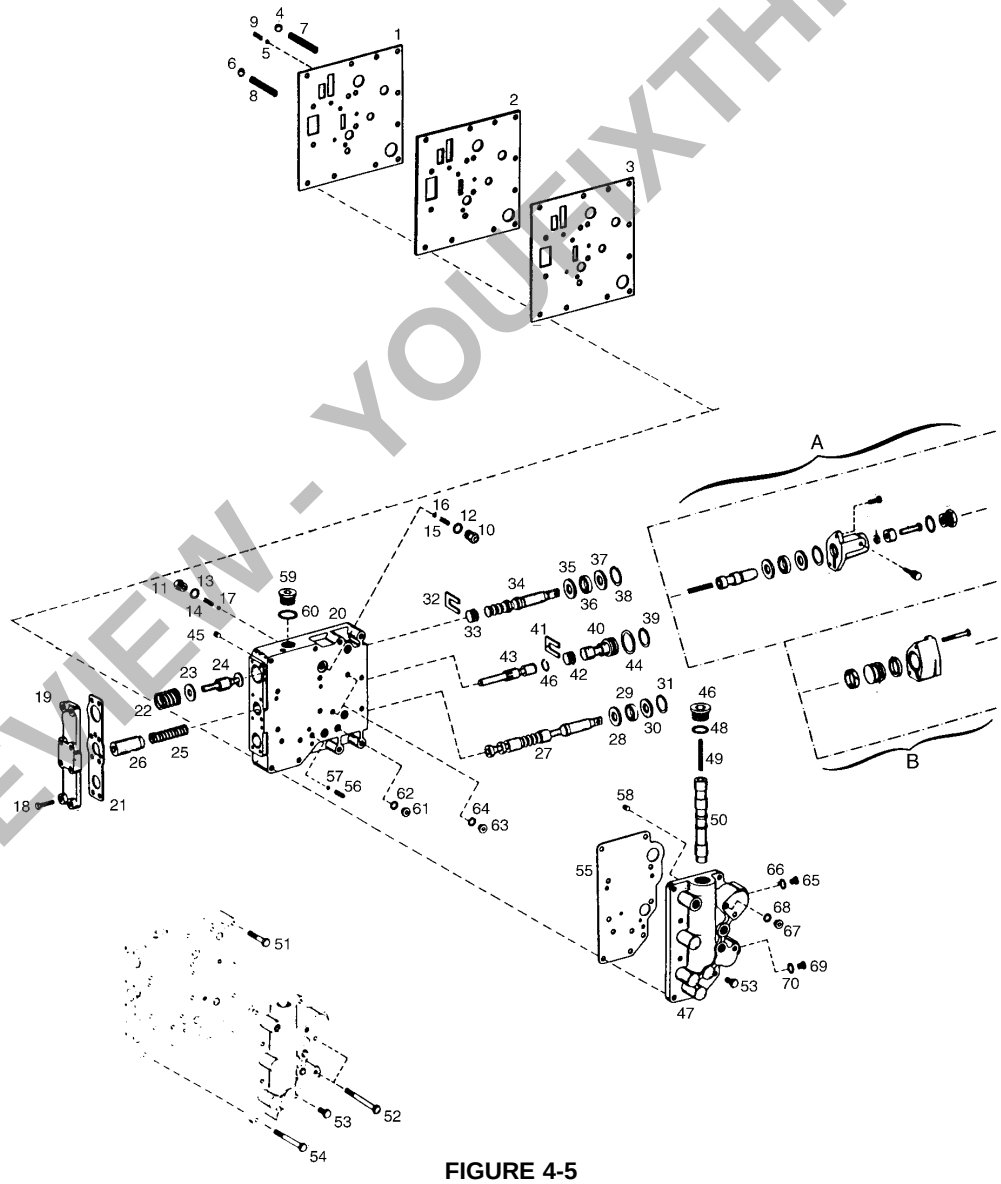


FIGURE 4-5

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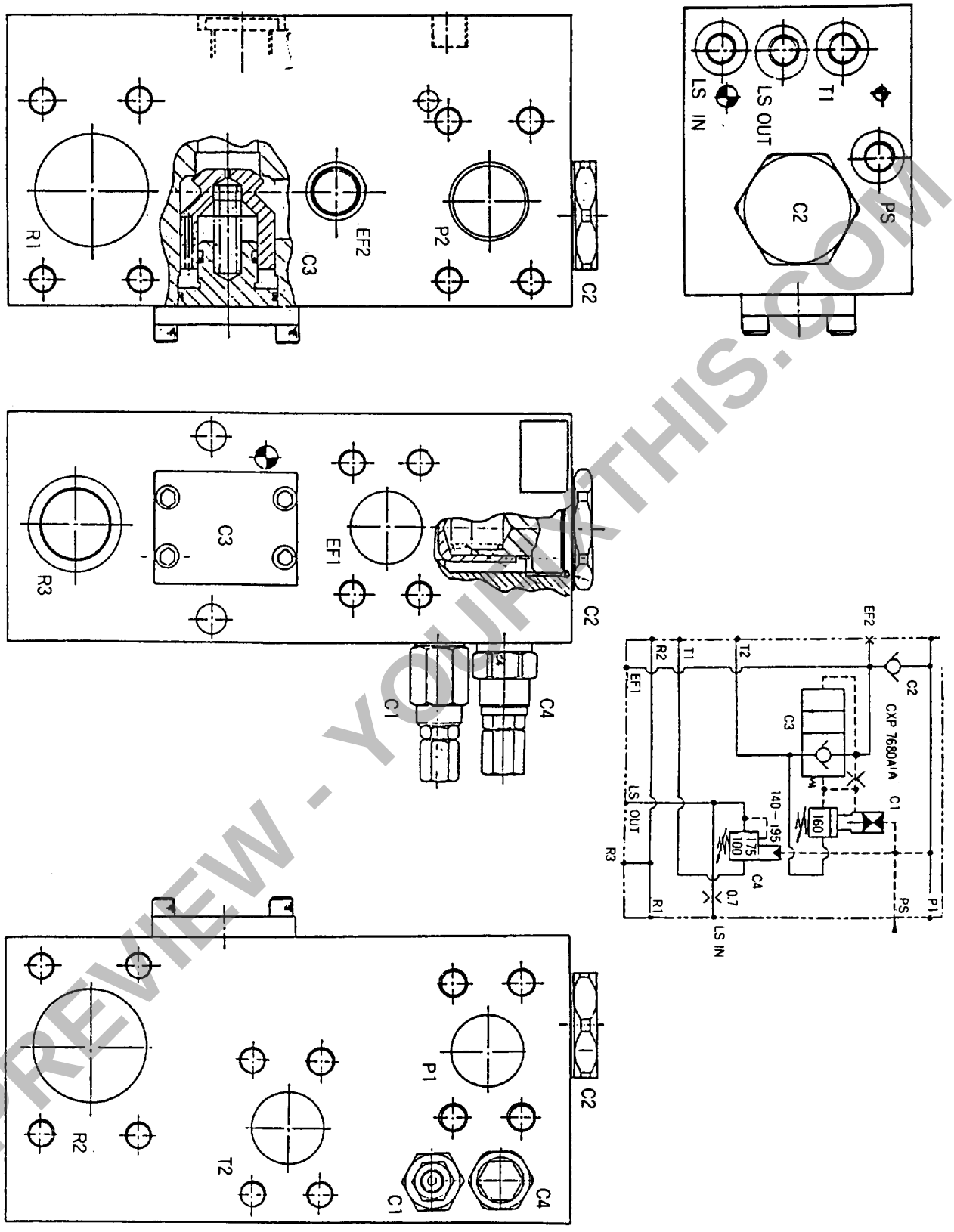


FIGURE 7-71

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ENGINE START CIRCUIT

1. Ignition Switch
2. Battery Relay
3. Starter
4. Start Relay
5. Starter Controller
6. Gear Select Switch
7. Fuse Box
8. Alternator
9. Battery
10. Circuit Breaker

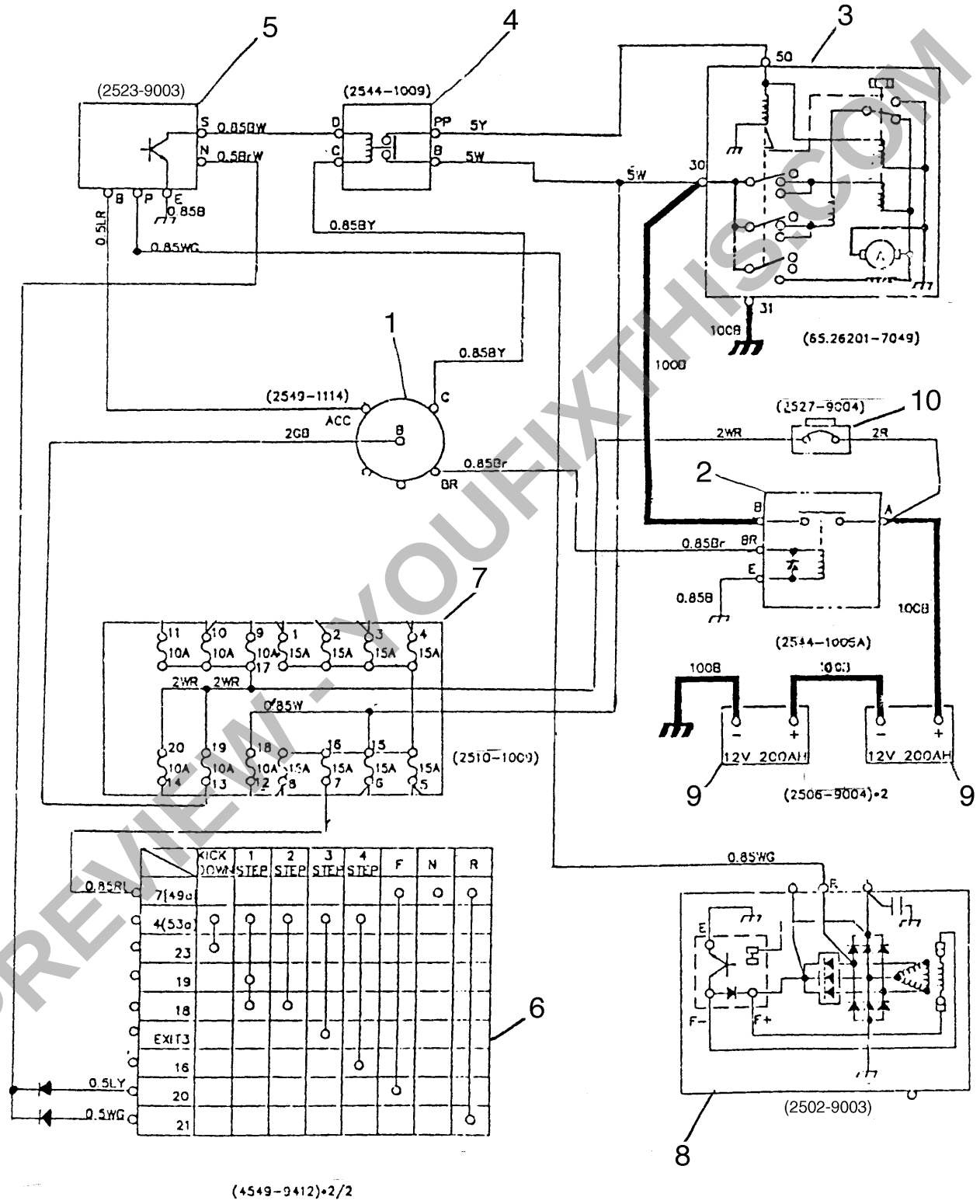


FIGURE 9-1

5018

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Transmission Troubleshooting

Control Pressure Is Too Low at All Speeds As Indicated on the Gauge in the Operator's Cab

Test	Result	Action
1. Check control pressure.	Pressure too low.	If pressure is low, perform Step 2.
	Pressure good.	If pressure is OK, replace cab gauge.
2. Check lubrication pressure.	Pressure too low.	If pressure is low, perform Pump Test, Step 3.
	Pressure good.	If pressure is good, perform Control Time Test, Step 4.
3. Pump Test	Pressure too low.	Replace pump.
	Pressure good.	Replace gearbox.
4. Control Time Test	Test time too long.	Perform Pressure Control Valve Test, Step 5.
	Test time good.	Repair control valve.
5. Pressure Control Valve Test	Valve defective.	Replace pressure control valve.
	Valve good.	Replace control unit.

Control Pressure Too Low at a Specific Speed

Test	Result	Action
Check control pressure.	Pressure too low.	Replace gearbox.
	Pressure good.	Replace cab pressure gauge.

Transmission Fluid Temperature Too High

Test	Result	Action
1. Check fluid level.	Level low.	Fill to correct level.
	Level good.	Go to Step 2.
2. Check fluid temperature at oil cooler.	Cooler temp. same as transmission temp.	Cooler contains excessive dirt. Clean.
	Cooler temp. 8 – 10°C (46 – 50°F) lower than transmission temp.	Go to Step 3.
3. Check converter outlet pressure.	Pressure too high.	Repair transmission control valve.
	Correct pressure is 3.0 – 6.5 bar.	
	Pressure too low.	Go to Step 4.
4. Check converter relief valve.	Defective valve.	Repair or replace.
	Valve good.	Go to Step 5.
5. Check converter seal ring.	Good seal ring.	Speed of operation is too low. Operate machine at higher speed.
	Defective seal ring.	Replace seal ring.

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Bolt Torque Chart

Tightening Torque Specifications for Metric Bolts (For coated threads, pre-lubed assemblies)

Grade	Gr. 8.8		Gr. 10.9		Gr. 12.9	
Dia.	**Kg m**	**ft lb**	**Kg m**	**ft lb**	**Kg m**	**ft lb**
5 mm x std	0.59	4.3	0.79	5.7	1.0	7.2
6 mm x std	1.00	7.3	1.38	10	1.66	12
8 mm x std	2.49	18	3.46	25	4.15	30
8 mm x 1.0	2.76	20	3.87	28	4.56	33
10 mm x std	4.84	35	6.92	50	8.30	60
10 mm x 1.0	4.84	35	7.05	51	8.30	60
12 mm x std	8.57	62	11.89	86	14.52	105
12 mm x 1.5	9.00	65	12.59	91	14.94	108
14 mm x std	13.55	98	18.95	137	23.10	167
14 mm x 1.5	14.94	108	21.02	152	24.89	180
16 mm x std	20.88	151	29.46	213	35.54	257
16 mm x 1.5	22.54	163	31.53	228	38.03	275
18 mm x std	28.90	209	40.52	293	48.41	350
18 mm x 1.5	32.50	235	45.92	332	55.04	398
20 mm x std	40.94	296	57.95	419	69.01	499
20 mm x 1.5	46.05	333	64.03	463	77.03	557
22 mm x std	54.90	397	77.86	563	93.08	673
22 mm x 1.5	61.00	441	86.02	622	105.00	759
24 mm x std	71.00	513	100.00	723	120.00	868
24 mm x 2.0	78.00	564	109.95	795	130.00	940
27 mm x 2.0	115.06	832	160.00	1157	195.00	1410

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2. Remove the check balls (4), (5), (6) and the compression springs (7), (8), and (9). See Figure 4-6.



FIGURE 4-6 4445

3. Remove the plugs (10) and (11), O-rings (12) and (13), springs (14) and (15), check balls (16) and (17). See Figure 4-7. Remove set screw (45).



FIGURE 4-7 4446

4. Remove the bolts (18) that hold cover (19) to the valve body (20). See Figure 4-8. Remove gasket (21).



FIGURE 4-8 4447

5. Remove the spring (22), stop washer (23), and spool (24) from valve bore “c.” See Figure 4-9. Remove the spring (25) and piston (26) from valve bore “b.” Remove the spool (27), from bore “a.”



FIGURE 4-9 4448

6. Remove the stop plate (32) from bore “c.” See Figure 4-10. Then remove the detent block (33), and spool (34).

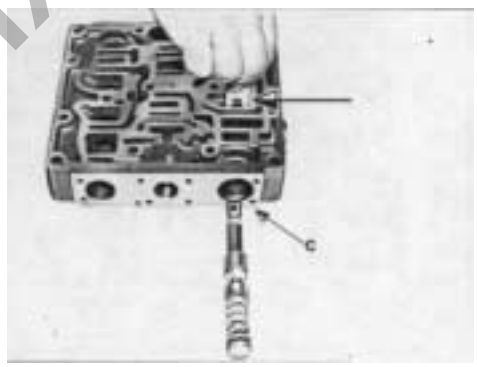


FIGURE 4-10 4449

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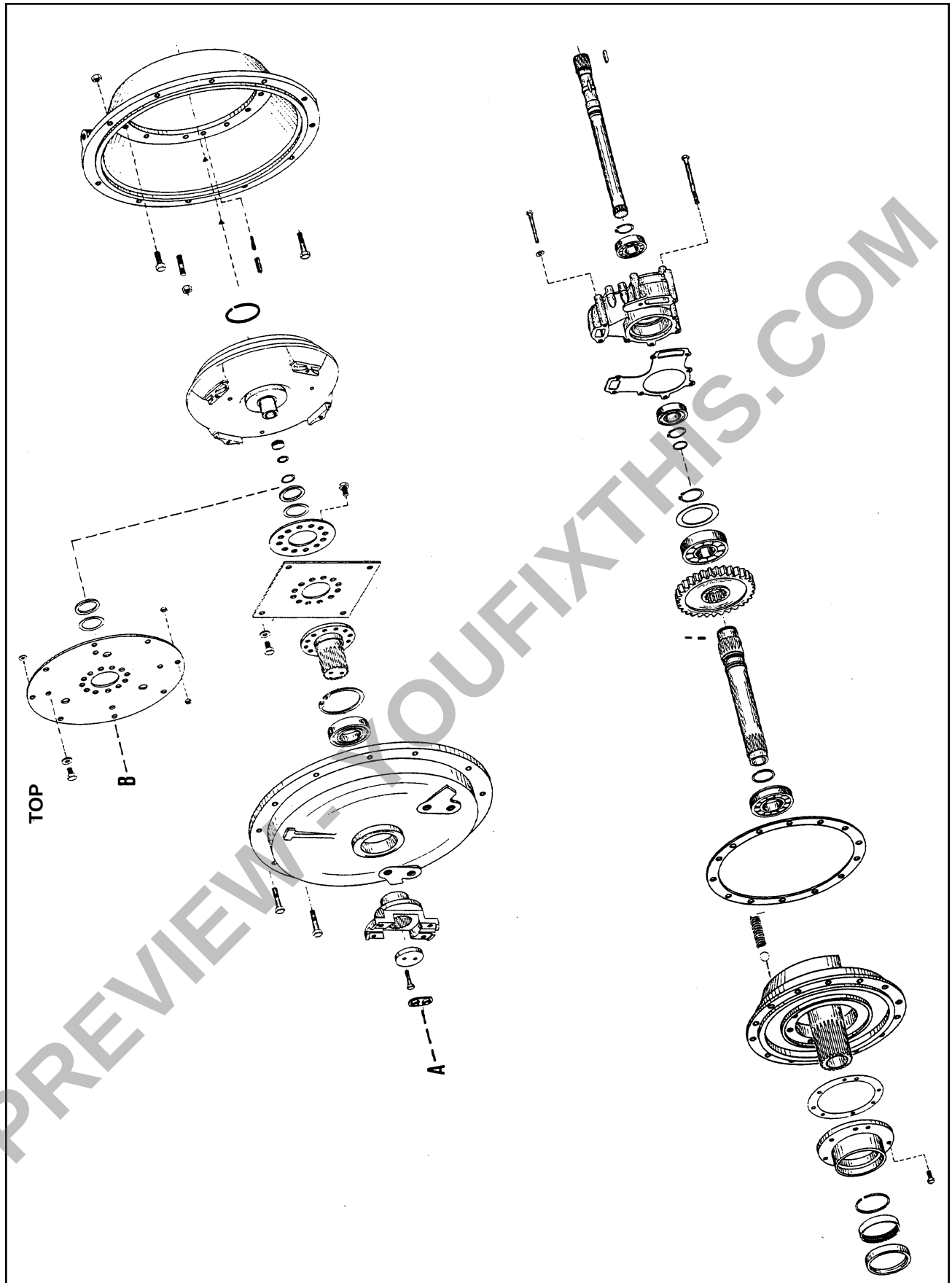


FIGURE 4-70

4509

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1. Boom and Bucket Pump
2. Steering Pump
3. Pilot Pump
4. Priority Valve
5. Unloading Valve
6. Hydraulic Tank
7. Oil Cooler
8. Cooler Bypass Valve
9. Return Filter
10. Pilot Filter
11. Pilot Relief Valve
12. Regulator Valve
13. Pressure Relief Valve
14. Safety Cutoff Valve
15. Breather Cap
16. Filter Bypass Valve
17. Boom Cylinder
18. Bucket Cylinder
19. Boom Kick-out Proximity Switch
20. Bucket Dump-stop Switch
21. Control Valve
22. Main Relief Valve
23. Option Spool
24. Boom Spool
25. Bucket Spool
26. Cavitation Valve
27. Recycle Valve
28. Overload Relief Valve
29. Check Valve
30. Bucket Return-to-dig Proximity Switch
31. Boom Float Proximity Switch
32. Dump Stop Valve
33. Option Valve
34. Option Valve
35. Pilot Control Valve
36. Control Lever
37. Option Switch
38. Bucket Dump Valve
39. Bucket Crowd Valve
40. Boom Raise Valve
41. Slow Float Valve
42. Bucket Rollback Solenoid

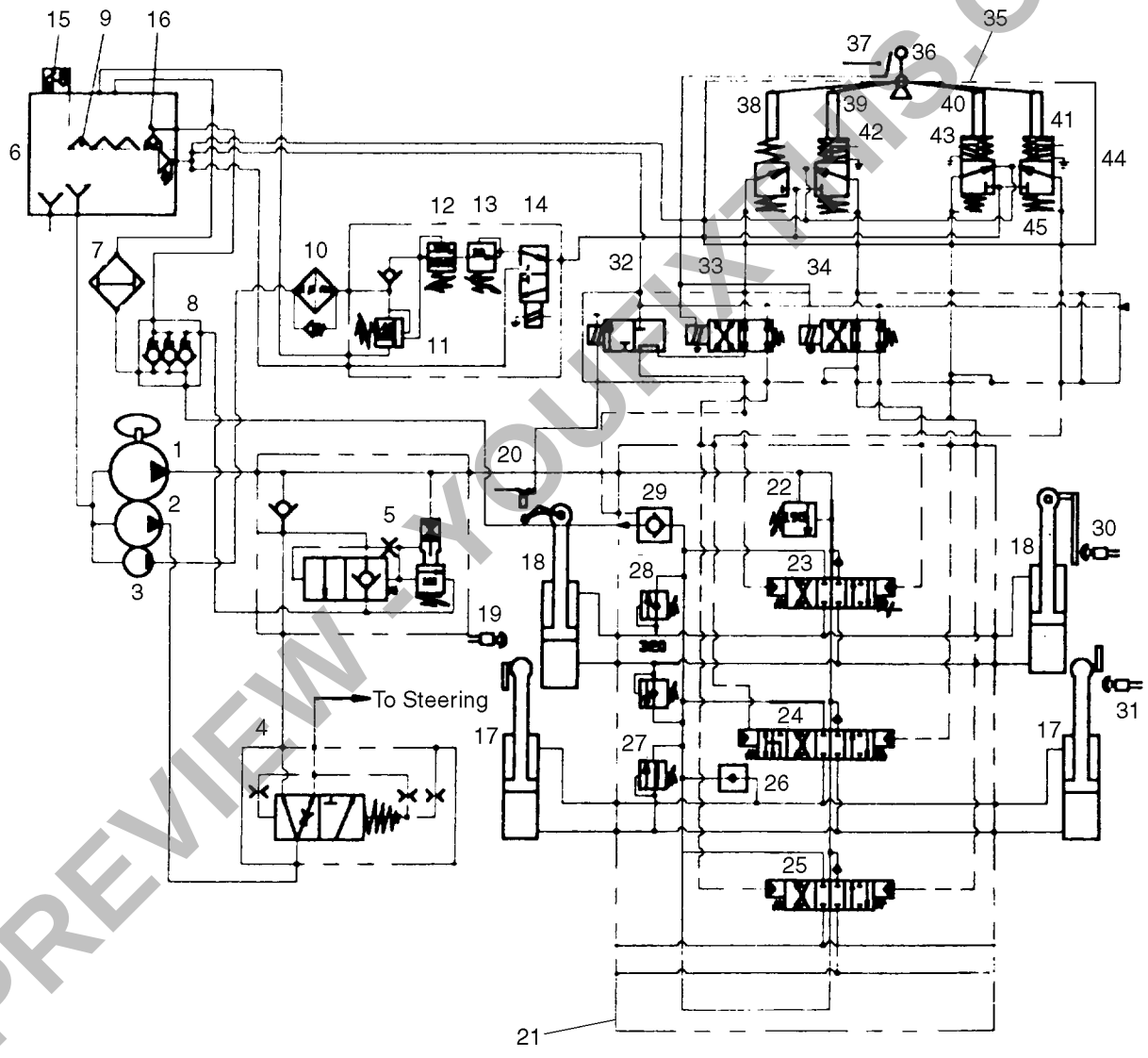


FIGURE 7-1

5010

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ENGINE INTAKE PREHEAT CIRCUIT

1. Ignition Switch
2. Circuit Breaker
3. Battery
4. Heating Element
5. Battery Relay
6. Alternator
7. Preheat Controller
8. Preheat Complete Light
9. Thermal Switch
10. Preheat Relay
11. Electronic Control Unit
12. Starter
13. Fuse Box

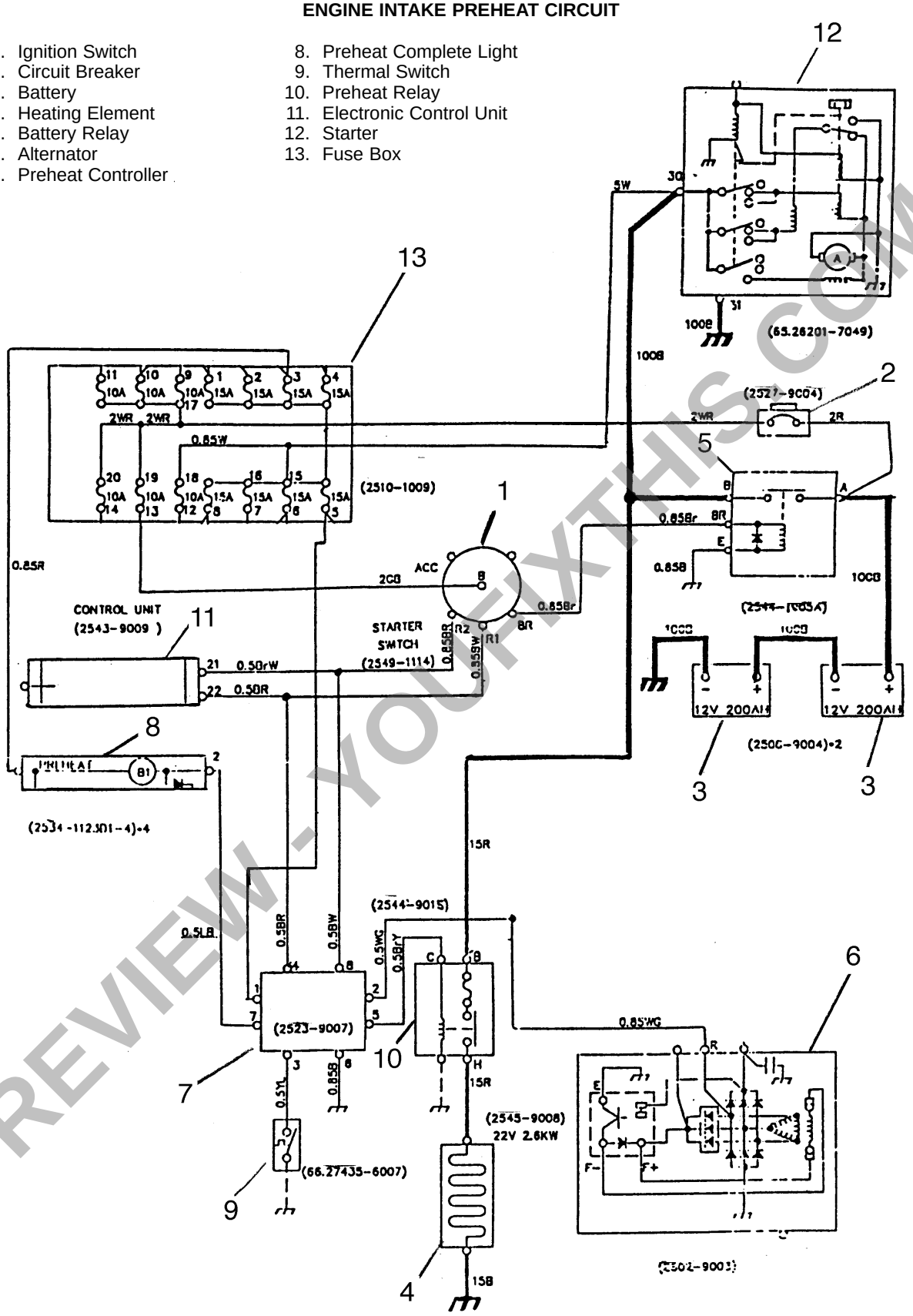


FIGURE 9-3

5020

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