STANDARD TORQUE DATA
FOR HYDRAULIC TUBES AND FITTINGS

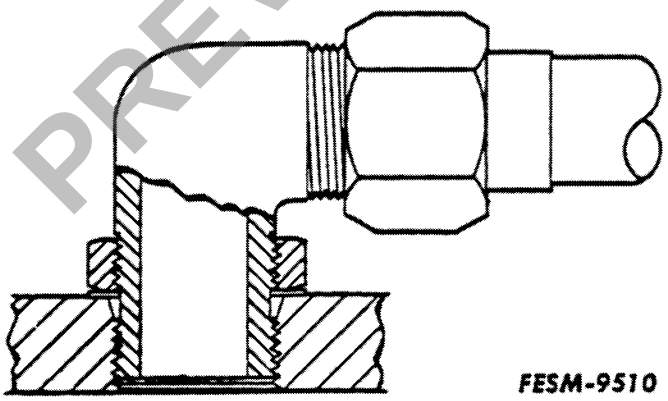
TUBE NUTS FOR 37° FLARED FITTINGS								O-RING BOSS PLUGS, ADJUSTABLE FITTING LOCK NUTS, SWIVEL JIC – 37° SEATS			
				TORQUE				TORQUE			
SIZE	TUBING O.D.		THREAD SIZE	FOOT POUNDS		NEWTON METERS		FOOT POUNDS		NEWTON METERS	
	Inches	mm		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-16	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	306	325	250	300	339	407

Above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations.

Swivel nuts either swaged or brazed.

These torques are not recommended for tubes of 1/2" (12.7 mm) O.D. and larger with wall thickness of .035" (.889 mm) or less. The torque is specified for .035" (.889 mm) wall tubes on each application individually.

INSTRUCTIONS FOR THE ADJUSTABLE STANDARD THREAD TUBE FITTINGS



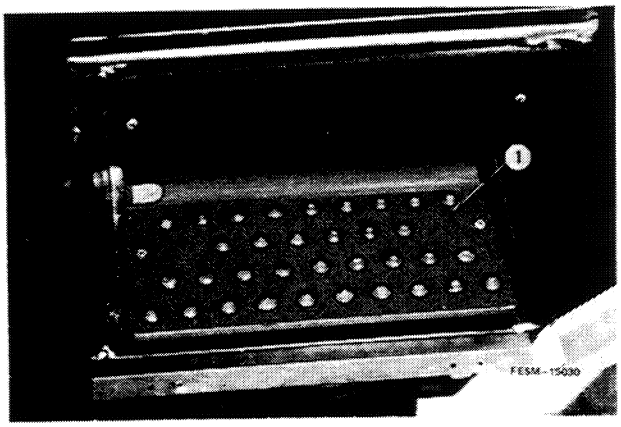
FESM-9510

The following general instructions will apply to the adjustable straight threaded hydraulic O-ring boss tube fitting of the 37° style shown.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Speed Transmission Split

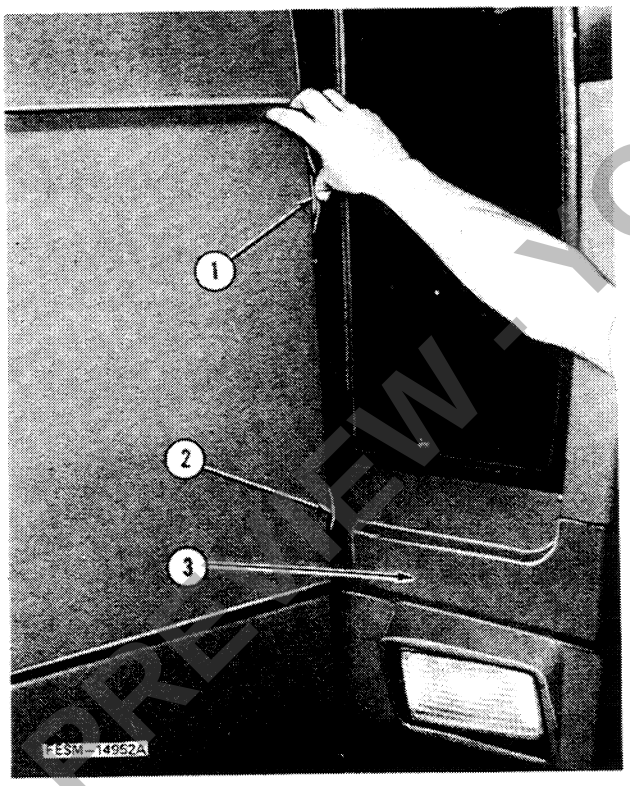


1. Step panel

Splitting the Tractor

NOTE: On units equipped with all wheel drives refer to "ALL WHEEL DRIVE ATTACHMENT" for peculiar parts.

1. Remove the left and right inner step panels and disconnect the battery cables from the terminals. Disconnect the negative cable first.



1. Upper latch release lever
2. Lower latch release lever
3. Lower front control center light panel

2. Remove both lower front control center light panels and disconnect the electrical wires from the lights.

NOTE: Observe the routing of the electrical wires in their mounting clips (tag as required) for proper reassembly.

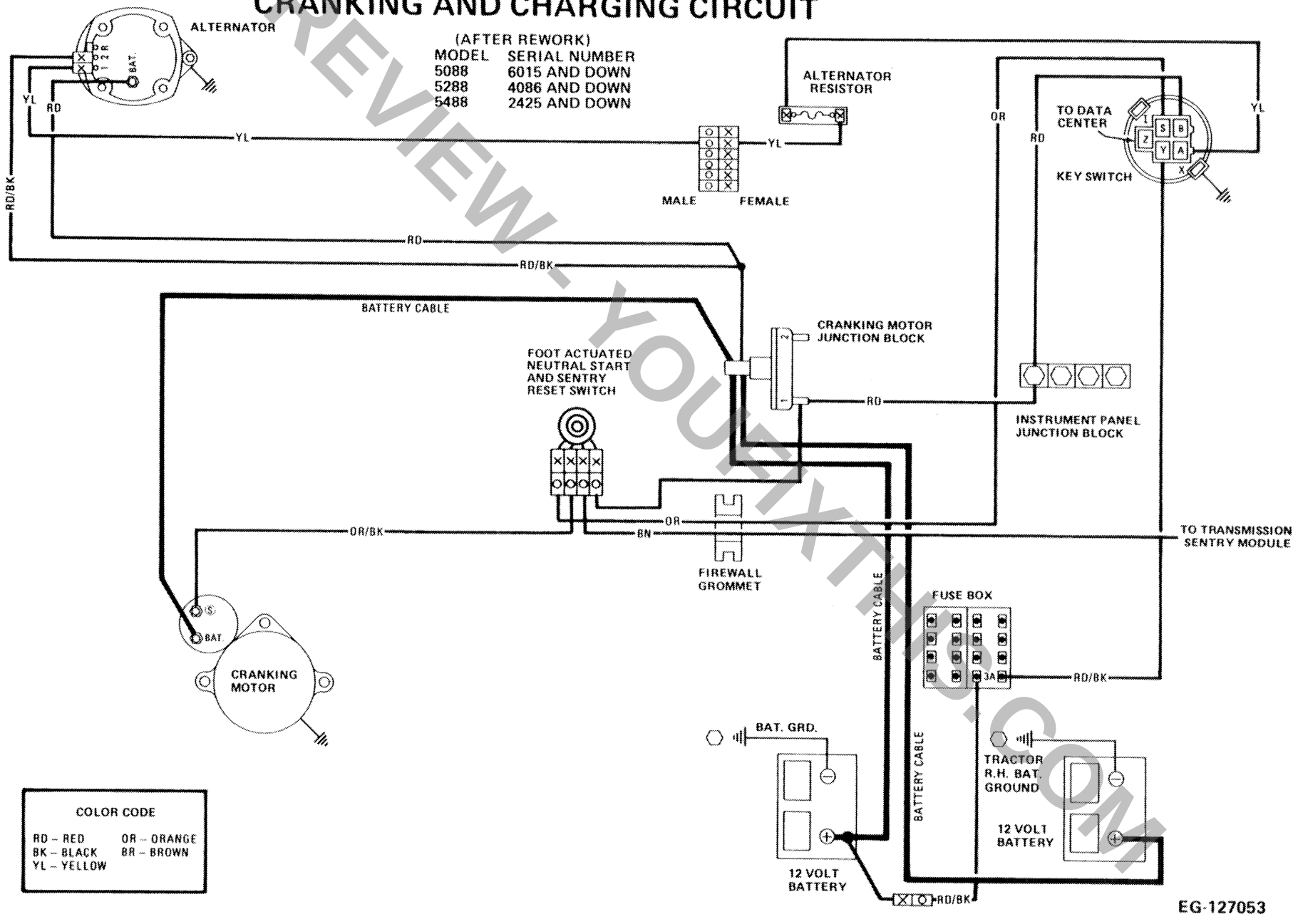
3. Remove all the hood sheet metal. To remove the side panel doors push in the latch release levers which are located behind the rubber seal. Then release the front latch and remove the panel door.

NOTE: Hood sheet metal requires removal in order to setup splitting stands plus removal of the A/C compressor and condenser.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

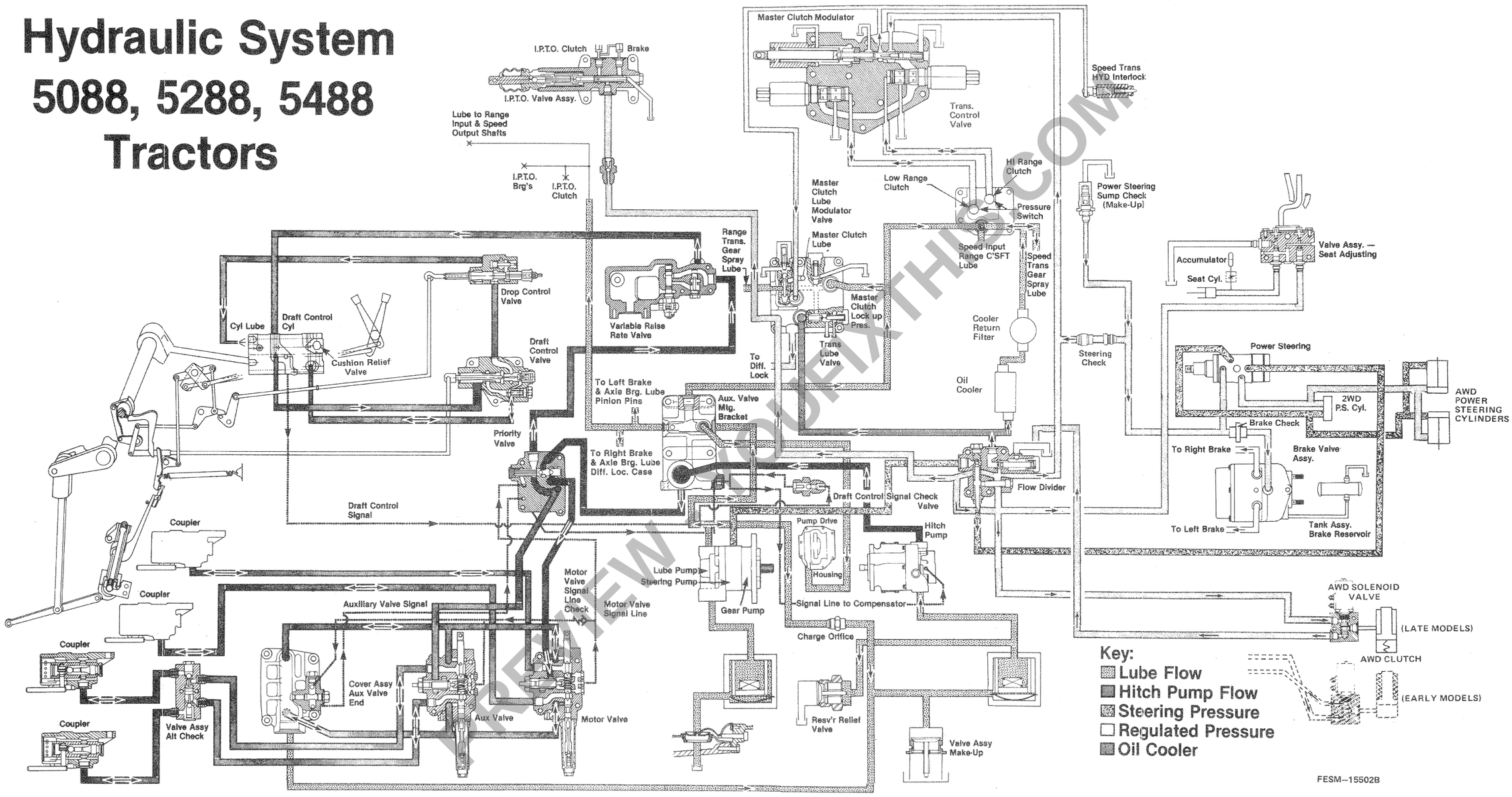
CRANKING AND CHARGING CIRCUIT



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Hydraulic System 5088, 5288, 5488 Tractors



PREVIEW ONLY
YOUFIXTHIS.COM

Download full manual at youfixthis.com

STANDARD TORQUE DATA FOR INCH NUTS AND BOLTS — FOOT POUNDS

Recommended torque for all Standard Unplated Nuts and Bolts, provided:

A. Surface finish is oxide coated, oil quenched or bright.

B. All thread surfaces are clean and lubricated with SAE-30 engine oil or equivalent (See NOTE.)

C. Joints are rigid, that is, no gaskets or compressible materials are used.

D. When reusing nuts or bolts use minimum torque values.

NOTE: Multiply the standard torque by:
.65 when finished jam nuts are used.
.70 when Molykote, white lead or similar mixtures are used as lubricants.
.75 when phosphate coated and oiled bolts or nuts are used.
.85 when cadmium or zinc dichromate bolts or nuts are used.
.90 when hardened surfaces are used under the nut or bolt head (this applies to standard unplated hardware only).

1 FOOT POUND = 1.355 NEWTON METERS

Bolt or Stud Diameter	Type 1 Studs Only		Type 1 Bolts 6" length or less		Type 1 Bolts longer than 6"		Type 5 (all lengths)		Type 8 (all lengths)			
									Only when used † in cast (gray) iron		All other applications	
Inches	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	5	6	6	7	4	4	9	10	11	13	13	14
5/16	12	13	11	13	7	8	18	20	22	25	25	28
3/8	21	24	21	24	13	14	33	37	41	46	45	50
7/16	35	38	35	38	20	23	53	60	66	74	75	85
1/2	52	58	52	59	31	35	80	90	100	112	115	130
9/16	70	80	75	85	45	51	115	130	145	160	165	185
5/8	98	110	104	117	62	70	160	180	200	225	225	255
3/4	174	195	185	205	110	125	285	320	356	400	400	455
7/8	280	315	180	200	180	200	460	575	570	640	645	725
1	420	470	265	300	265	300	685	720	855	960	970	1085
1-1/8	595	670	380	425	380	425	850	950	1210	1360	1375	1545
1-1/4	840	945	535	600	535	600	1200	1350	1705	1920	1940	2180
1-3/8	1100	1240	700	785	700	785	1570	1760	2235	2515	2540	2860
1-1/2	1470	1640	925	1045	925	1045	2080	2340	2970	3340	3375	3795

†When bolt penetration is 1-1/2 times the diameter of the bolt.

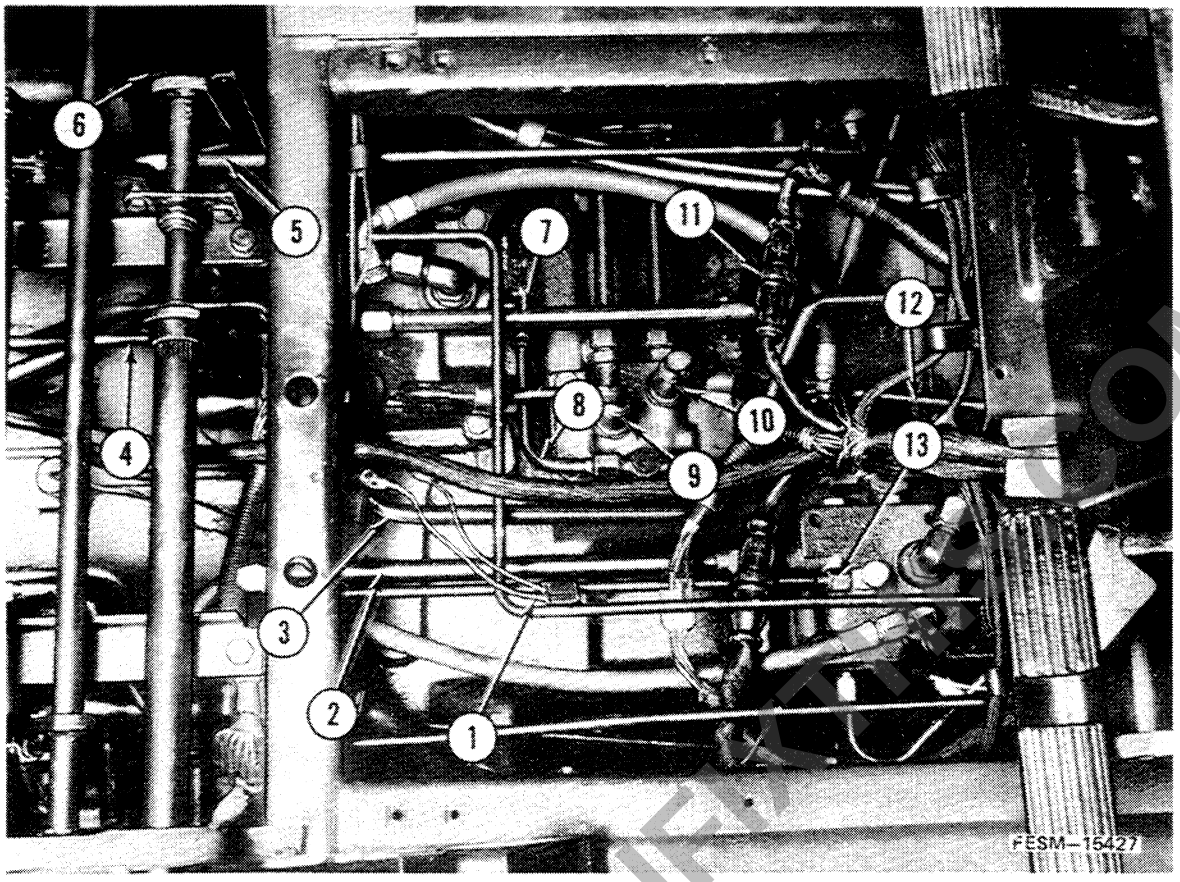
BOLT TYPE IDENTIFICATION CHART

IH TYPE	S.A.E. GRADE	DESCRIPTION	BOLT HEAD MARKING*
1	EQUIVALENT 1 or 2	WILL HAVE A IH STANDARD MONOGRAM IN THE CENTER OF THE HEAD Low or Medium Carbon Steel Not Heat Treated	
5	5	WILL HAVE A IH AND 3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	8	WILL HAVE A IH AND 6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

*The center marking identifies the bolt manufacturer.

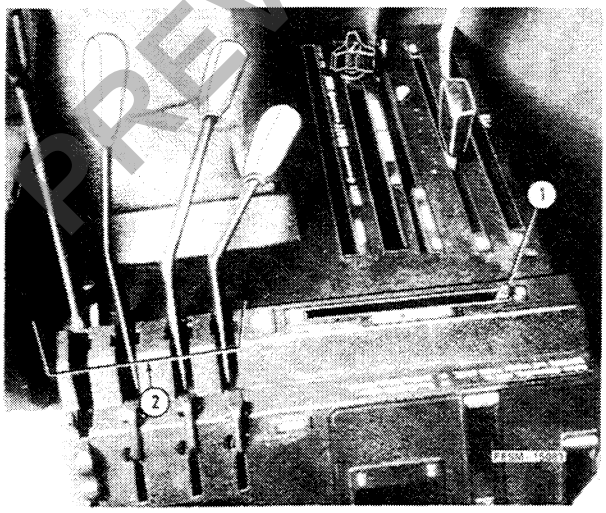
Revised Nov. 1983

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com



1. Differential lock solenoid wire
2. Supply tube from steering pump at flow divider
*3. Oil cooler by-pass tube
4. Range transmission shift rod
*5. Speed transmission shift rod
6. Range transmission shift rod
*7. Transmission lube valve clutch supply tube
* 8. Oil cooler return tube at manifold
9. Lo range pressure switch
10. Hi range pressure switch
11. Screw connectors on main wiring harness
*12. Brake return line at tee fitting
13. Differential lock tube at flow divider valve

*Must be removed



8. Disconnect and/or remove the items called out in the above illustrations.

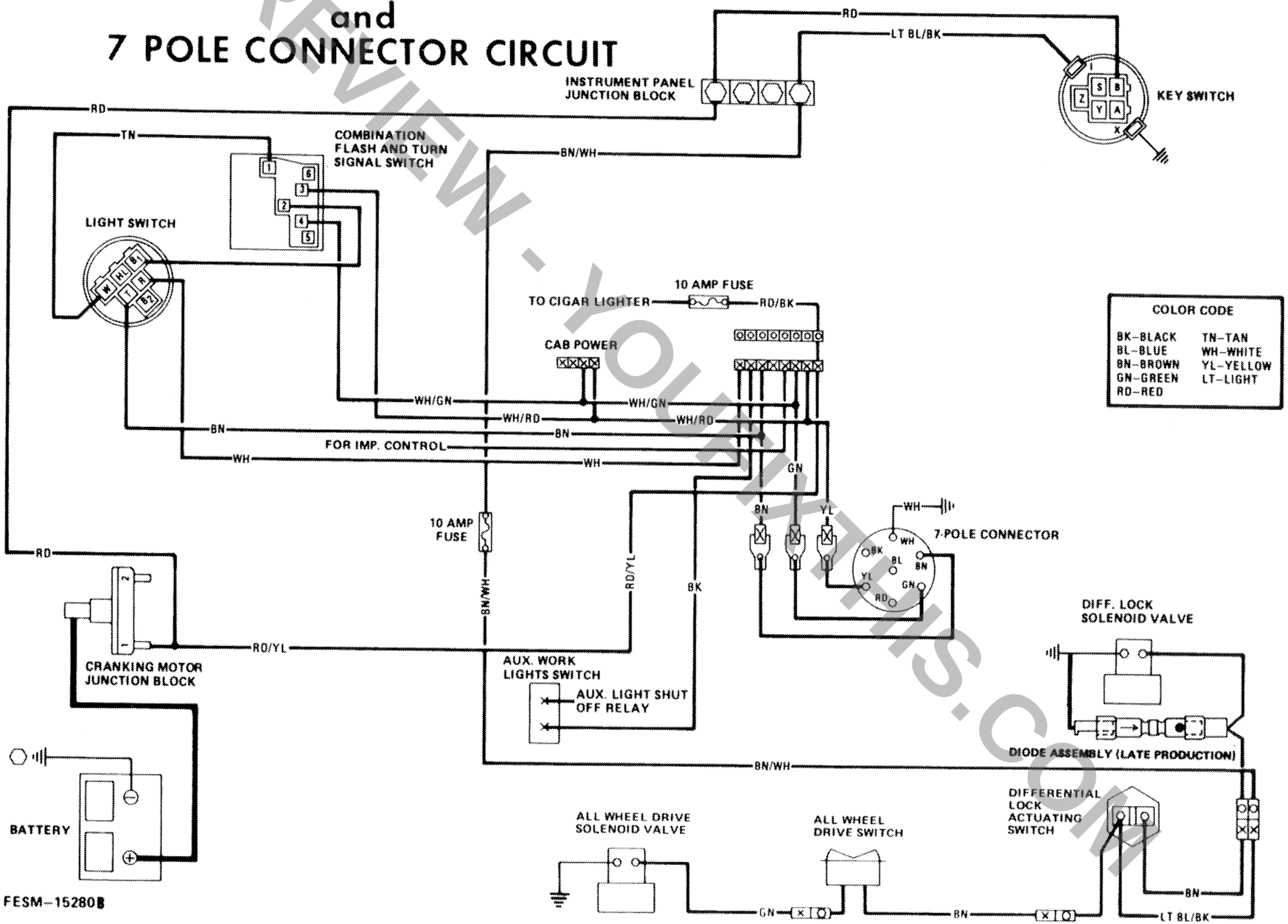
9. If engaged, disengage the lock pin from the auxiliary and motor control valve handle to prevent damage to the linkage, when raising the front of the control center.

1. Lock pin
2. Auxiliary and motor control valve handles

10. Remove both batteries, steps and battery boxes.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

DIFFERENTIAL LOCK, ALL WHEEL DRIVE and 7 POLE CONNECTOR CIRCUIT

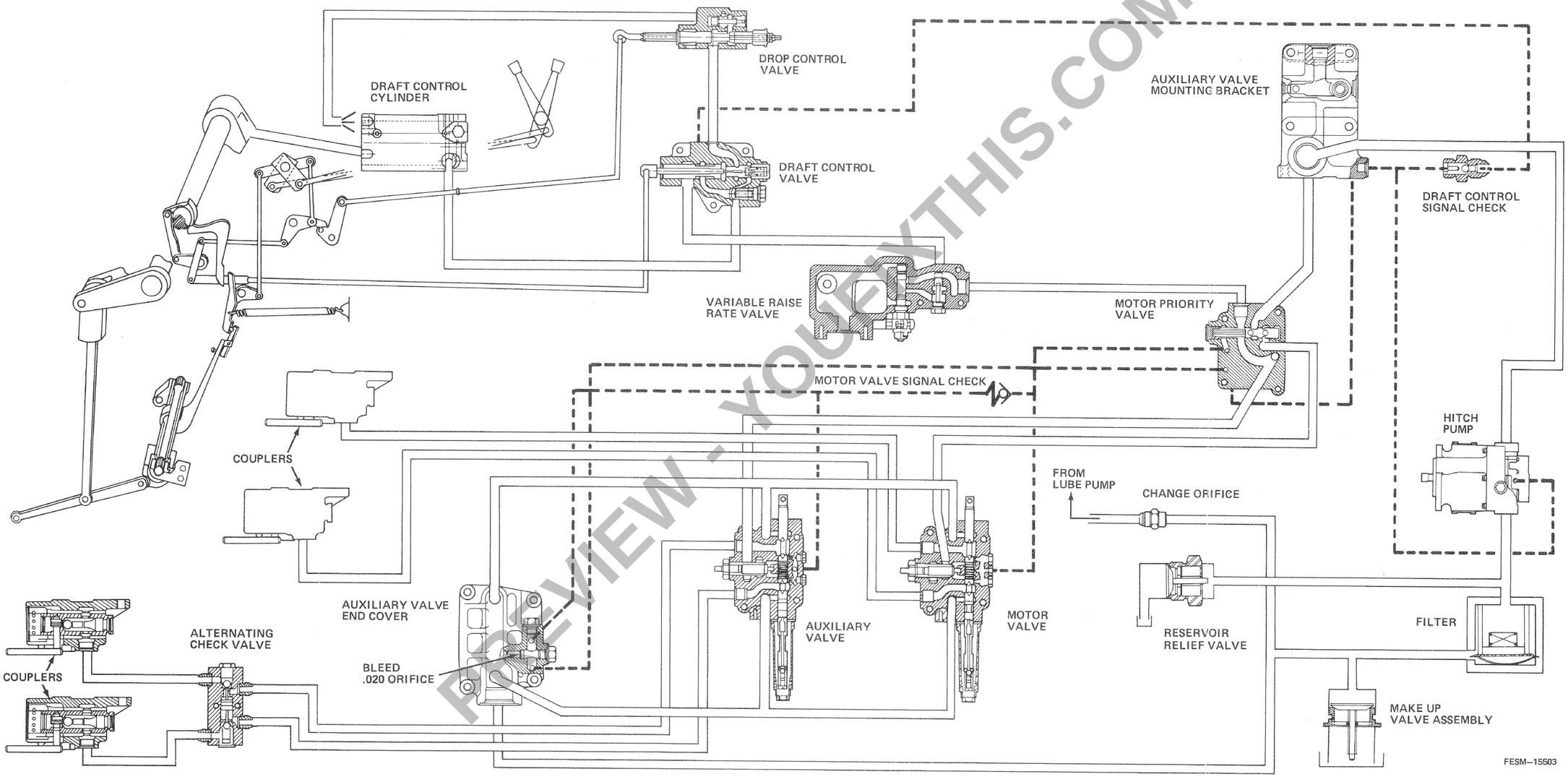


FESM–15280B

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

HITCH, MOTOR AND AUXILIARY VALVE CIRCUITS

FOLDOUT NO. 8



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

STANDARD TORQUE DATA FOR METRIC NUTS AND BOLTS—

Recommended torque for all Standard Unplated Nuts and Bolts, provided:

A. Surface finish is oxide coated, oil quenched or bright.

B. All thread surfaces are clean and lubricated with SAE-30 engine oil or equivalent (See NOTE.)

C. Joints are rigid, that is, no gaskets or compressible materials are used.

D. When reusing nuts or bolts use minimum torque values.

NOTE: Multiply the standard torque by:
.65 when finished jam nuts are used.
.70 when Molykote, white lead or similar mixtures are used as lubricants.
.75 when phosphate coated and oiled bolts or nuts are used.
.85 when cadmium or zinc dichromate bolts or nuts are used.
.90 when hardened surfaces are used under the nut or bolt head (this applies to standard unplated hardware only).

FOOT POUNDS

Bolt Diameter	5.8 Class 5.8		8.8 Class 8.8		9.8 Class 9.8		10.9 Class 10.9		10.9 Class 10.9 Only when used* in cast (gray) iron	
Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
6	5	6	8	9	9	10	11	13	10	11
7	9	10	14	15	15	18	19	21	17	18
8	13	14	20	23	23	25	28	31	24	27
10	25	28	40	45	45	50	54	61	48	54
12	43	49	70	78	78	88	95	106	83	93
14	70	78	111	125	124	140	151	170	133	150
16	108	121	172	194	193	216	233	263	206	232
18	149	168	238	268	—	—	324	364	285	320
20	210	237	336	378	—	—	458	515	403	453
22	287	323	458	516	—	—	624	702	549	618
24	363	409	581	654	—	—	791	890	696	783

*When bolt penetration is 1-1/2 times the diameter of the bolt.

NEWTON METERS

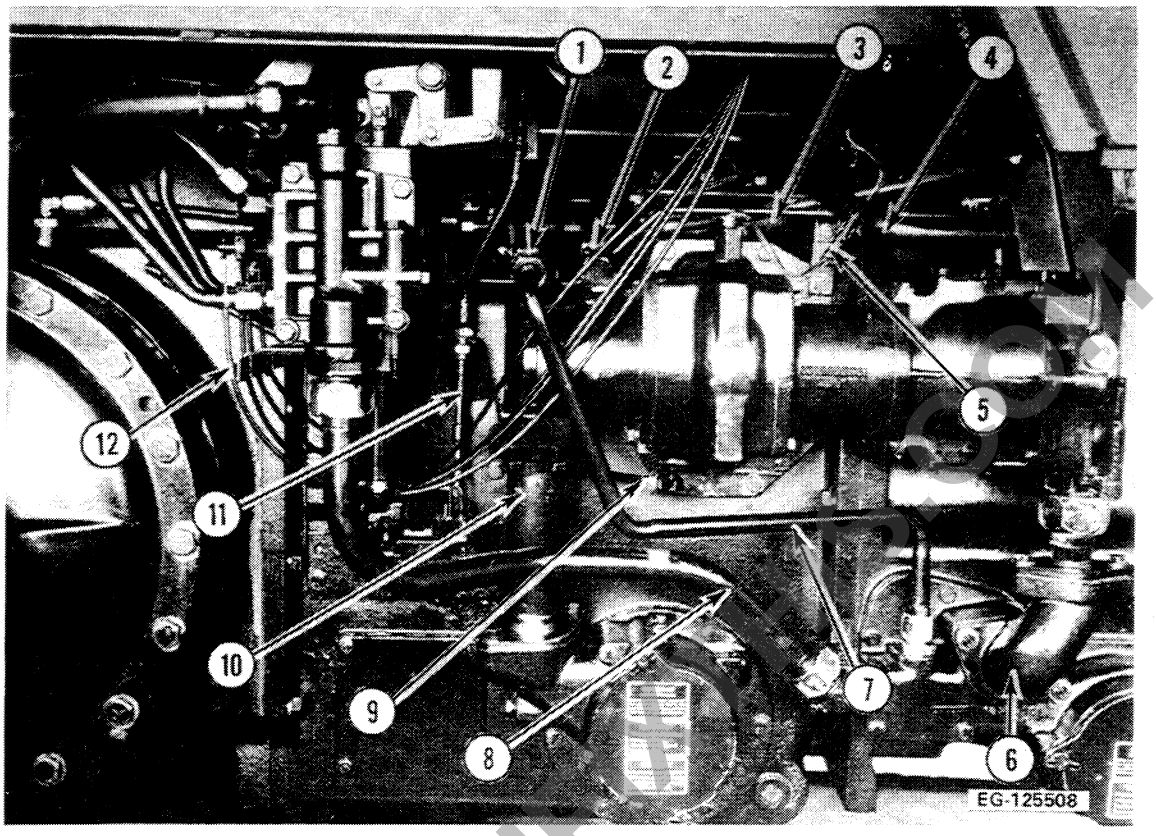
Bolt Diameter	5.8 Class 5.8		8.8 Class 8.8		9.8 Class 9.8		10.9 Class 10.9		10.9 Class 10.9 Only when used* in cast (gray) iron	
Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
6	7	8	11	13	13	14	15	17	13	15
7	12	13	19	21	21	24	26	29	23	25
8	17	19	27	31	30	34	37	42	33	37
10	34	38	54	61	60	68	73	83	64	73
12	59	66	94	106	105	118	128	144	113	127
14	94	106	150	169	168	189	205	230	180	202
16	146	164	233	263	261	293	318	357	280	314
18	202	227	323	363	—	—	439	493	386	434
20	285	321	456	513	—	—	620	689	546	606
22	389	437	622	699	—	—	846	952	744	838
24	493	554	788	886	—	—	1072	1206	943	1061

*When bolt penetration is 1-1/2 times the diameter of the bolt.

June 1981

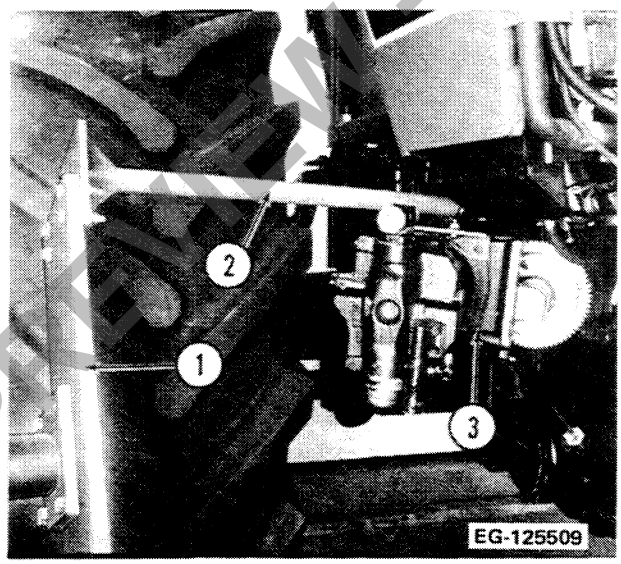
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



1. 30 GPM Pump supply tube
2. 12 GPM Pump supply tube
3. Pump signal tube
4. Auxiliary valve supply tube
5. RPM Transducer wire
6. PPH Suction tube
* 7. PPH supercharge tube
8. Auxiliary valve return tube
9. Hydraulic pump drive housing lube tube
10. Suction tube
11. Park lock cable
12. Auxiliary valve cables

*Remove



11. Disconnect and/or remove the items called out in the above photo.

12. Using 17-52-17 lifting bracket, remove the pump housing assembly.

NOTE: On All Wheel Drive tractors, remove the drive shaft and the output shaft. Refer to Section 2 and 9 for procedures.

1. 17-52-14 mounting plate
2. 17-52-17 lifting bracket
3. Pump housing assembly

PRINTED IN UNITED STATES OF AMERICA

GSS–1505–1 (Rev. No. 1)

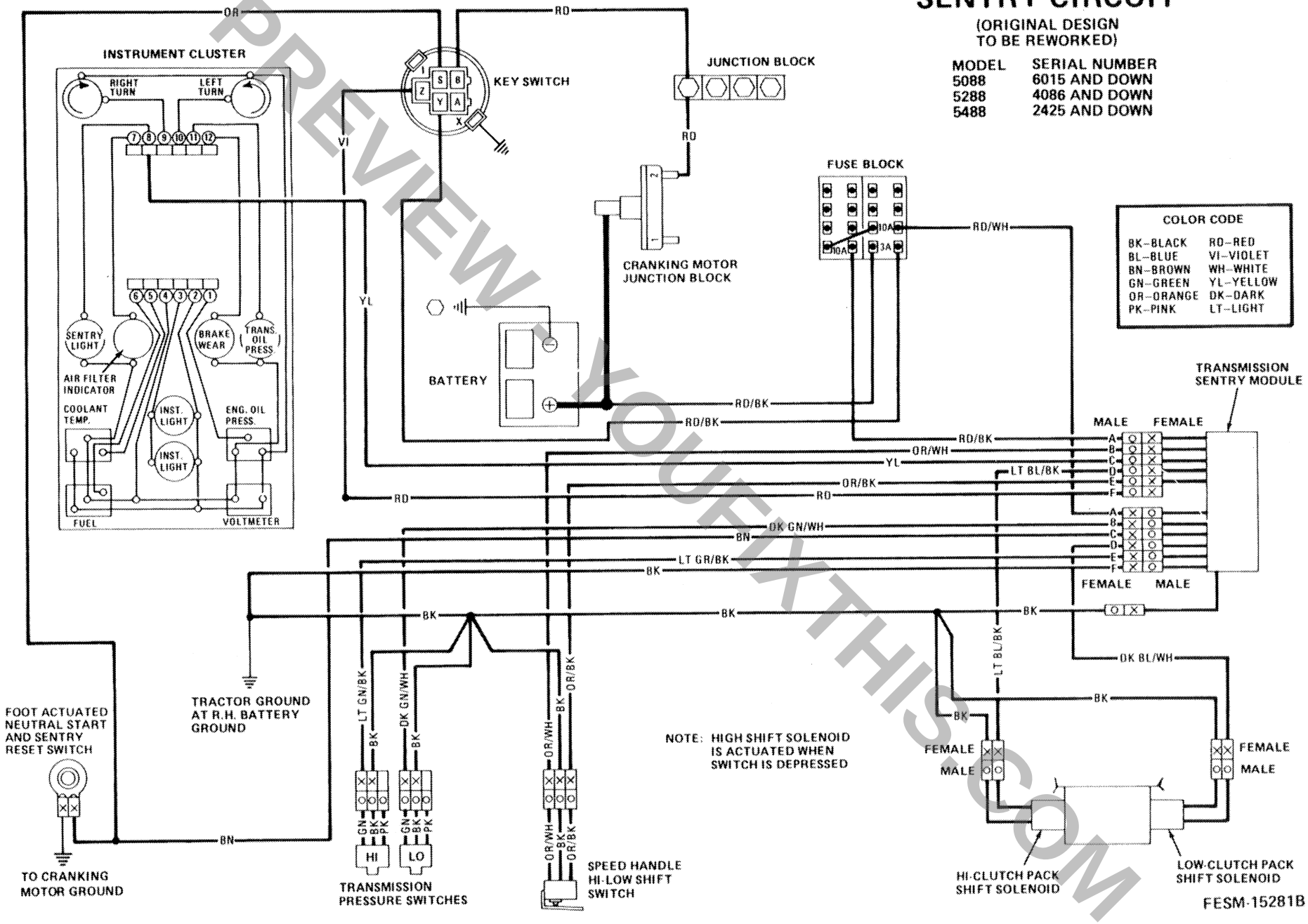
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SENTRY CIRCUIT

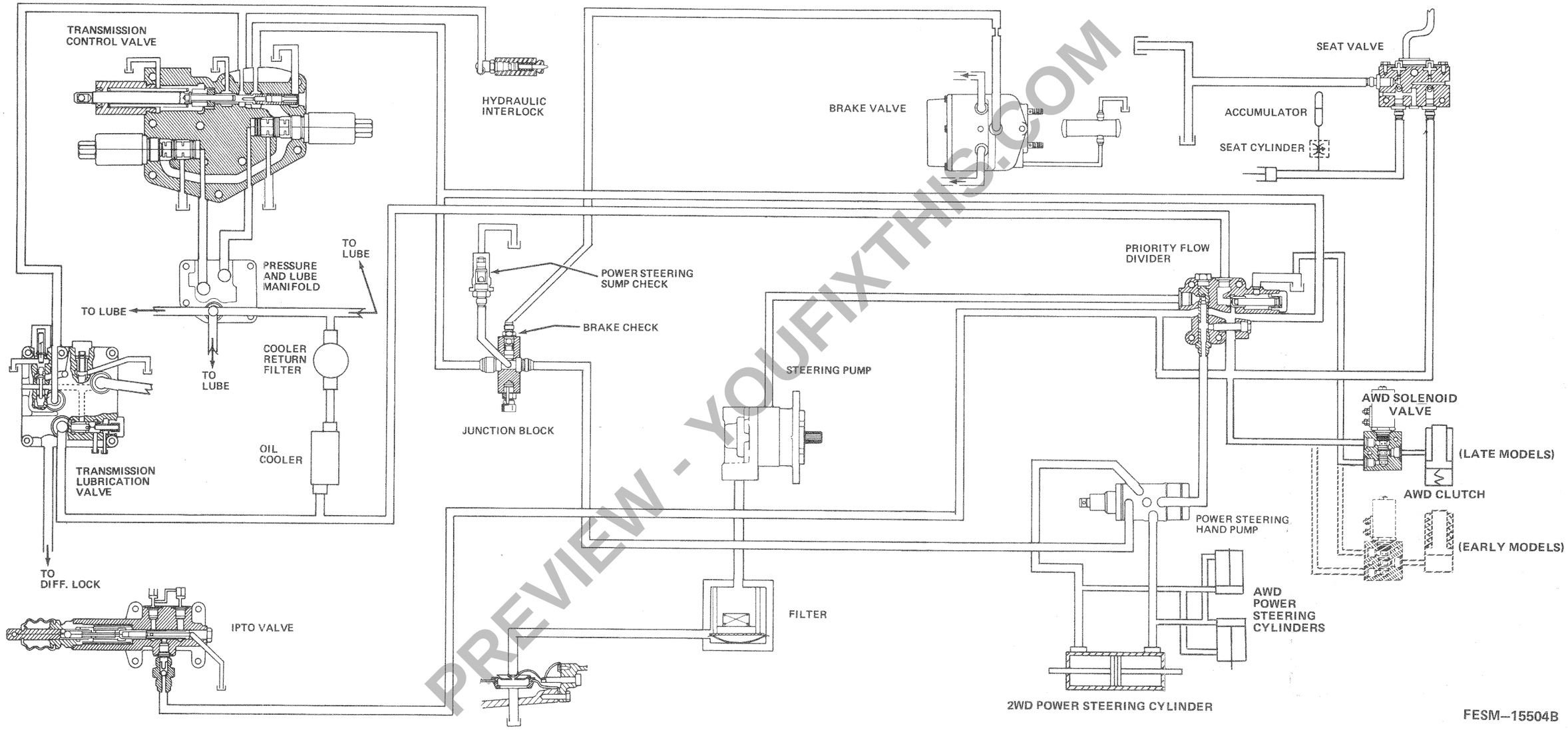
(ORIGINAL DESIGN
TO BE REWORKED)

MODEL	SERIAL NUMBER
5088	6015 AND DOWN
5288	4086 AND DOWN
5488	2425 AND DOWN



PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com



FESM–15504B

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

General Contents

	Page
Safe Work Rules	IV
Standard Torque Data for Hydraulic Tubes and Fittings	VI
Metric Conversion Tables	VIII
Standard Torque Data for Nuts and Bolts	X
Special Service Tools Required	XIII
Service Information System (S.I.S.)	XIX

1 TRACTOR SPLITS
2 FRONT AXLE ASSEMBLY
3 STEERING
4 ENGINE
5 FUEL SYSTEM
6 ELECTRICAL SYSTEM
7 COOLING SYSTEM
8 MASTER CLUTCH
9 TRANSMISSION
10 REAR FRAME ASSEMBLY
11 REAR AXLE ASSEMBLY
12 BRAKES
13 INDEPENDENT POWER TAKE OFF
14 HYDRAULIC SYSTEM
15 TESTING HYDRAULIC SYSTEM

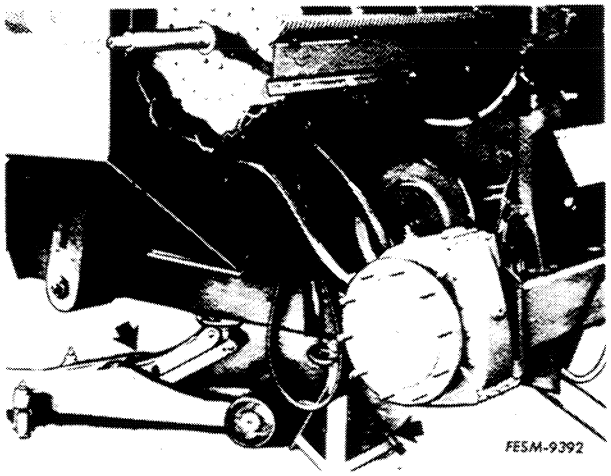
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

WORK SAFELY — FOLLOW THESE RULES

This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

1. To prevent injury, do not allow children or by-standers around the machine while it is being adjusted and/or serviced.


FESM-9392

2. Always use safety stands in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail

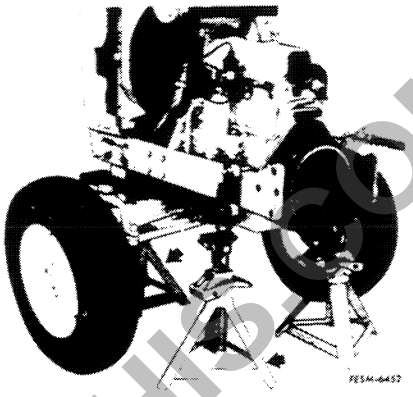
3. Articulated Tractors — Always use the frame lock pin when servicing the tractor in the area of the hinged or pivot point of the frame. The lock pin must be in place when making adjustments with the engine running. The lock pin prevents accidental pivoting of the frame. Always remove the lock pin and store correctly before attempting to steer the tractor.

4. Always wear safety glasses when using a hammer, chisel or other tools that may cause chips to fly.

5. Keep work area organized and clean. Wipe up oil or spills of any kind. Keep tools and parts off of the floor. Eliminate the possibility of a fall which could result in a serious injury.

6. Be sure to reinstall safety devices, guards or shields after adjusting and/or servicing the machine. Also, replace missing or damaged safety and/or instruction decals.

7. After servicing, be sure all tools, parts, or servicing equipment are removed from the machine.


FESM-6457

8. When splitting tractors, or disassembling machines, be sure to use safety stands and adequate supports to prevent tipping or rollover.


FESM-9718

9. Use a safety catch on all hoist hooks. Do not take a chance, the load could slip off of the hook.



FESM-9719

10. When using an acetylene torch always wear welding goggles and gloves. Keep a "charged" fire extinguisher within reach. Be sure the acetylene and oxygen tanks are separated by a metal shield and are chained to the cart. Do not weld or heat areas near fuel tanks or fuel lines and utilize proper shielding around hydraulic lines.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com
PRINTED IN UNITED STATES OF AMERICA

Due to a continuous program of research and development, some procedures, specifications and parts may be altered in a constant effort to improve our products.

When changes and improvements are made in our products, periodic revisions may be made to this manual to keep it up-to-date. It is suggested that customers contact their dealer for information on the latest revision.

NOTE: Some illustration in this manual show equipment not currently available. The illustrations are used primarily to cover serviceability and may not always represent production equipment.



CAUTION: Some photographs in this manual may show shields or cover panels removed for purposes of clarity. NEVER OPERATE unit without all shields and cover panels in place.

PREVIEW - YOUFIXTHIS.COM

CHASSIS
5088, 5288 and 5488
Tractors

GSS–1505–1

W/Rev. 2 January, 1985

NOTE: Refer to the following service manuals for service information not contained in this manual:

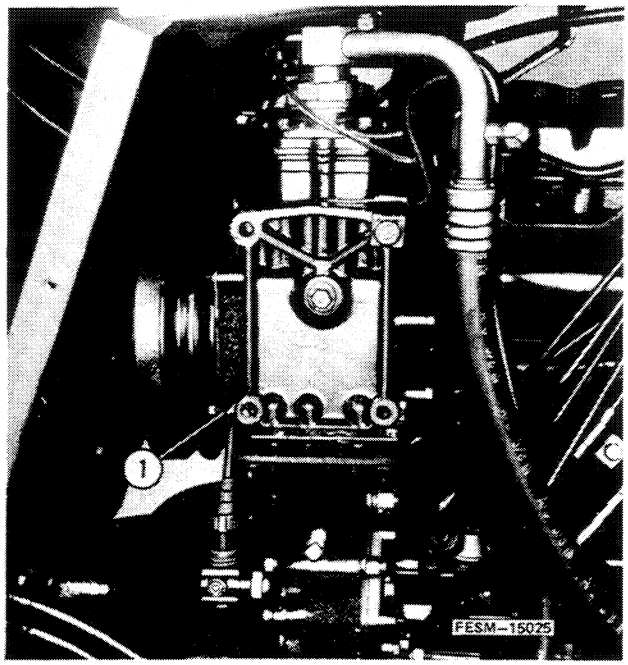
GSS-1052-C Testing and Servicing Electrical Equipment
GSS-1427-B 300 and 400 Series Diesel Engines and Fuel System (American Bosch)
GSS-1455-1 Basic Air Conditioning

GSS-1505-1 (Rev. No. 2)

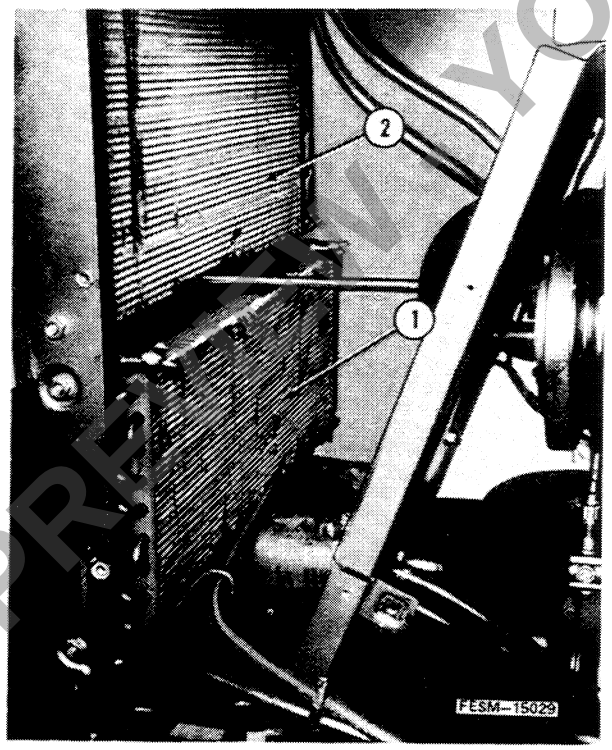
PRINTED IN UNITED STATES OF AMERICA

Download full manual at youfixthis.com

Air Conditioning Components



1. A/C compressor



1. A/C condenser
2. Oil cooler

CAUTION! With the removal of any of the components in the air conditioning system it is first necessary to discharge the system. Refer to GSS-1455-1 Basic Air Conditioning and Heating.

Compressor

The compressor is located on the left front side of the engine.

1. Discharge the A/C refrigerant at the compressor.

2. Disconnect the wiring.

3. Disconnect the refrigerant lines at the compressor.

4. Remove the belt.

5. Remove the compressor.

6. Reassemble in the reverse order of disassembly.

Condenser

1. Remove the left side panel door, left front center panel and lower side panel.

2. Remove the upper and lower side access covers from the left side of the radiator housing.

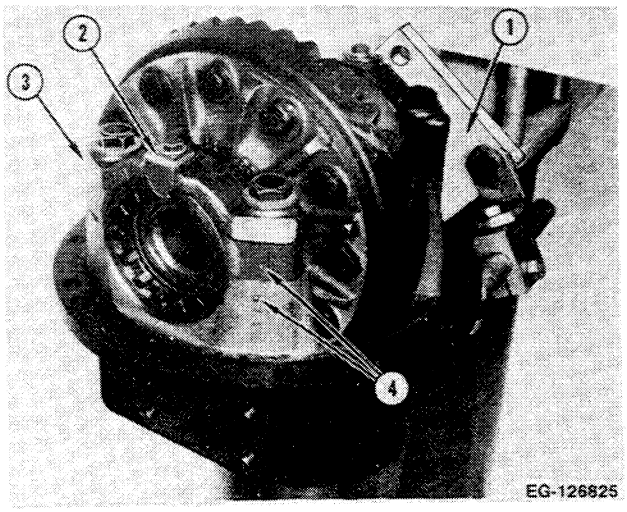
3. Discharge the A/C refrigerant at the compressor.

4. Remove the condenser and disconnect the A/C lines.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

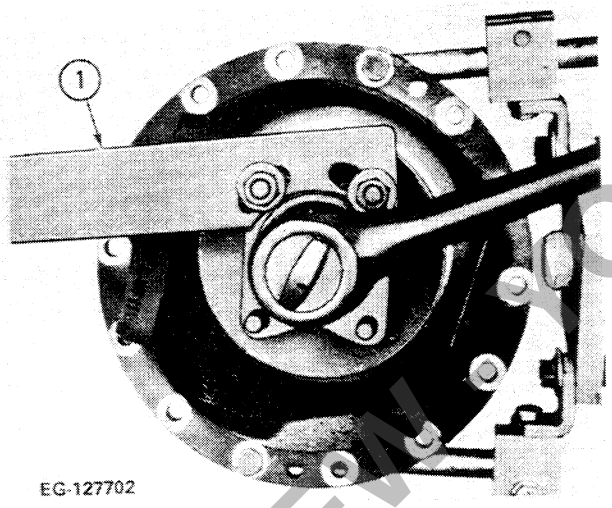
Disassembly



1 – Engine stand
2 – Adjusting nut lock
3 – Bearing cap
4 – Punch marks

1. Punch mark differential bearing caps for reassembly.

2. Remove the adjusting nut lock, bearing cap and lift differential assembly and adjusting nuts from housing.
NOTE: Prevent bearing cups from falling as you remove differential.

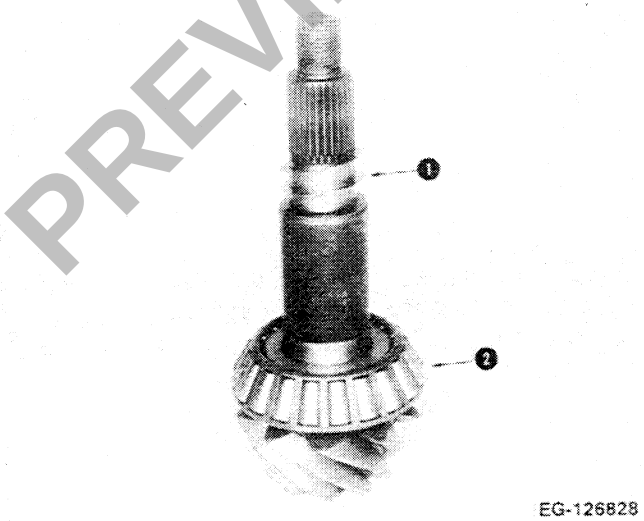


1 — Yoke holder #89-589

3. Using yoke holder #89-589, remove nut, washer and yoke.

NOTE: Early model differential used a thrust washer just under the shims on the pinion shaft.

4. Drive pinion shaft with preload shims from the differential housing. Do not lose shims.



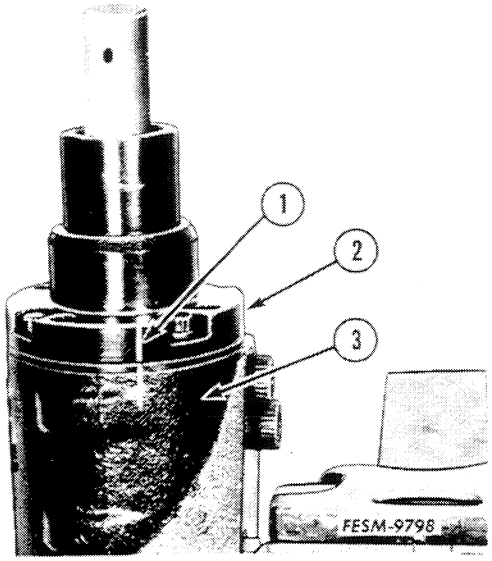
1 – Shims
2 – Bearing, inner

5. If necessary, press inner bearing from pinion shaft.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

PRINTED IN UNITED STATES OF AMERICA

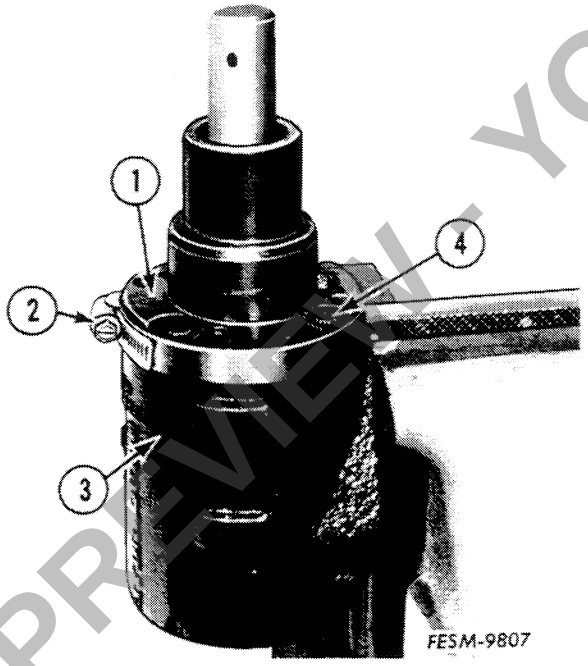


1. Scribe mark
2. Upper cover
3. Valve body

11. Assemble upper cover onto input shaft and rotate to align punch marks or scribe mark previously made during disassembly.

NOTE: If a new upper cover is used, no angular orientation is required. However, it is still necessary to align the upper cover and body as follows:

12. Install the screws finger tight and then use a worm drive type hose clamp tightened around the upper cover flange and the valve body to achieve the required alignment. Torque the screws to 24 N·m to 30 N·m or 18 to 22 ft. lbs.



1. Upper cover
2. Hose clamp
3. Valve body
4. Screws

13. If either the input shaft or the upper cover assembly or both have been replaced, the following procedure for shimming must be followed. Reassemble as covered in step 12 using the required new parts. After torquing the four screws, position the valve body so the input shaft is pointing downward. In order to determine if the unit is shimmed correctly, the drive link must be in its proper position. To do this, grasp the input shaft and pull downward, to prevent rotation. Engage the drive link splines in the spool and rotate the spool flush with the end of the valve body. Remove the drive link which should be in line with the tips of the spool splines. Position the drive link slot to engage the torsion bar pin and insert the drive link. Observe relationship of spool end to the valve body. If it is within .064 mm (.0025 in.) of being flush no additional shims are required. If not within .064 mm (.0025 in.) add or remove shims.

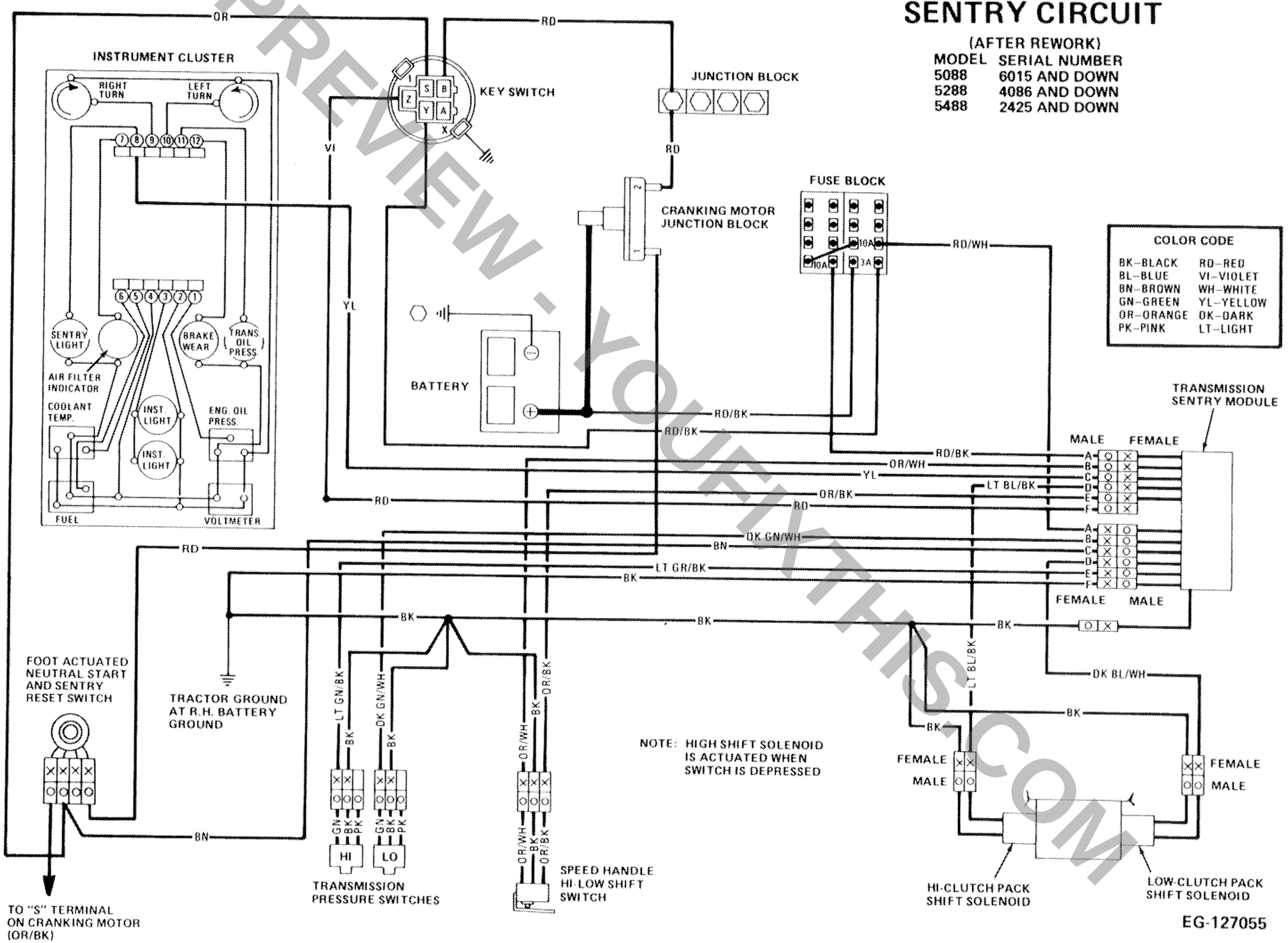
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SENTRY CIRCUIT

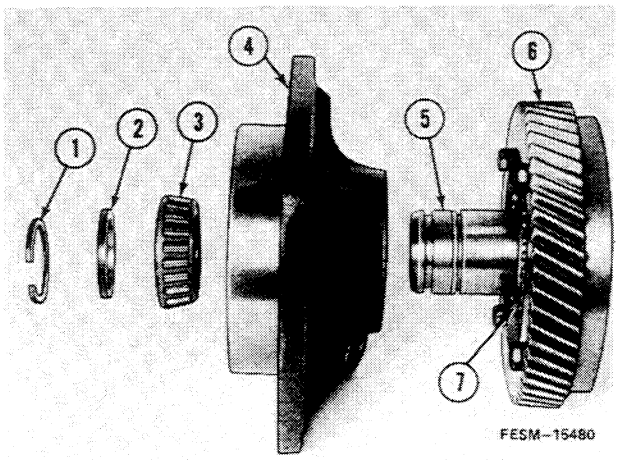
(AFTER REWORK)

MODEL	SERIAL NUMBER
5088	6015 AND DOWN
5288	4086 AND DOWN
5488	2425 AND DOWN



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



1. Snap ring
2. Shim
3. Bearing
4. Countershaft bearing cage
5. Pump drive gear carrier
6. Pump drive gear
7. Pump drive front bearing

Disassembly

1. Remove the snap ring and shim.

2. Press out the pump drive gear carrier from the rear bearing cage. Remove the countershaft front bearing cup with a suitable puller.

NOTE: The countershaft front bearing cup cannot be removed without first pressing out the pump drive gear carrier.

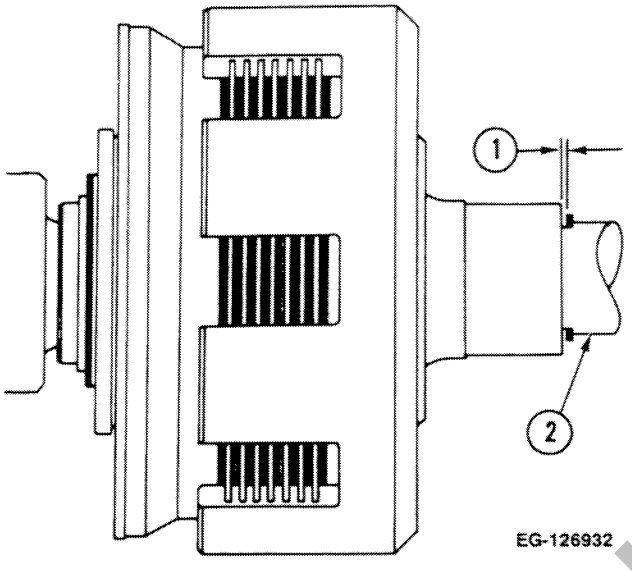
3. If necessary, complete disassembly of the pump drive gear carrier.

Reassembly

Refer to Hydraulic Pump Drive Gear Bearing Setup on page 9-22.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



1 – Measure here
2 – Output shaft

Late style illustrated

Installation

Install snap ring, spacer, bearing, spacer, snap ring and press wear sleeve on the front end of the output shaft.

Install shaft assembly into transmission until bearing is 10 in. from housing. Install snap ring onto rear end of output shaft.

Seat output shaft into clutch splines and lock front bearing in place with snap ring in bearing housing.

Hold the clutch rearward and pull the output shaft forward. Measure the distance between the clutch and the snap ring.

The gap should be 3.6 mm (.142 in.) or less. Additional snap rings should be added to achieve this figure.

NOTE: The gap must not be less than 1.3 mm (.05 inch).

Install new seal into bearing housing and new o-ring on output shaft.

Install driveshaft. Refer to "ALL WHEEL DRIVE – DRIVE SHAFT" for installation procedure.

Install rear trunnion cap. Tighten to 590-665 N·m (435-490 lbf-ft)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Installation

1. Install the brake discs and plates.

NOTE: If new dowels were used chamfered end goes in the housing. Also the brake disc must be coated with IH Hy-Tran fluid before installing.

2. Install the brake piston housing and tighten the mounting bolts to 233 to 263 N·m (172 to 194 ft. lbs.).

3. Install the brake jumper tubes with O-rings.

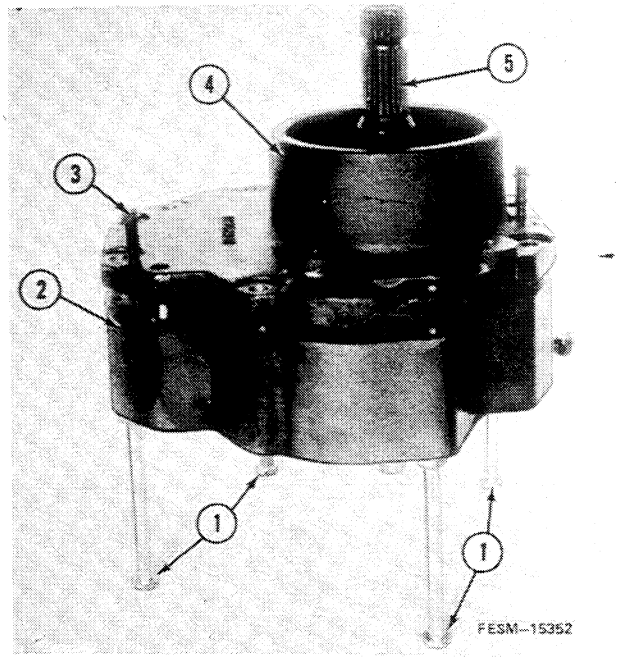
4. Install the brake wear switch to the top of the rear frame housing and connect the electrical lead on both sides.

5. Place a sealant bead of Loctite Gasket Eliminator 515 (474 517 C2) on the rear frame housing and install the axle.

6. Refer to Section 11 for Rear Axle Installation, Section 12 for Brake Service and Section 1 on Recoupling the Tractor.

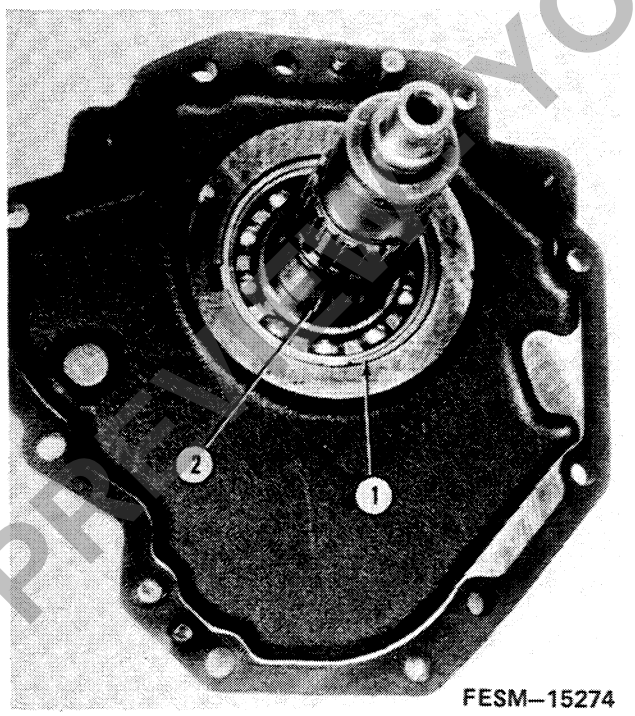
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



15. Support the IPTO housing as shown and remove the mounting bolts holding the cover. Using the carrier mounting bolts as jack screws install them in the threaded cover holes and turn down to lift off the cover. Remove the cover.

1. Bolts (3/8" x 6")
2. IPTO housing
3. Jack screws
4. IPTO cover
5. IPTO shaft (output)



16. Remove the snap ring from the outer race of the rear bearing.

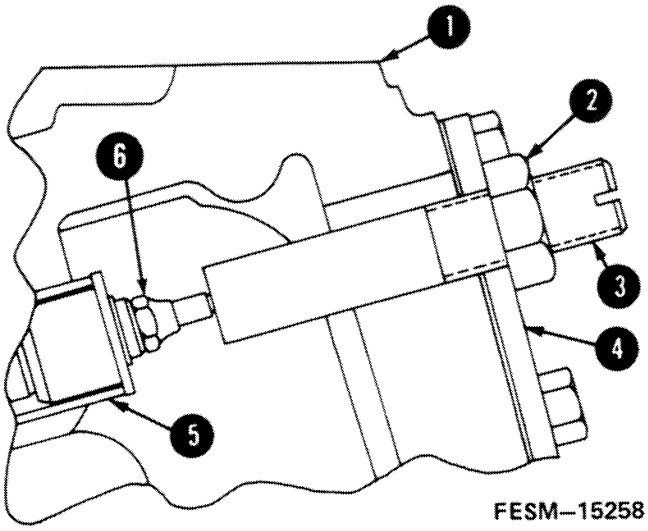
17. Remove the output shaft from the IPTO cover.

1. Snap ring
2. IPTO shaft (output)

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

Drop Control Valve Adjustment



FESM–15258

1. Rear frame cover
2. Lock nut
3. Stop screw
4. Front plate
5. Drop control valve
6. Adjusting nut

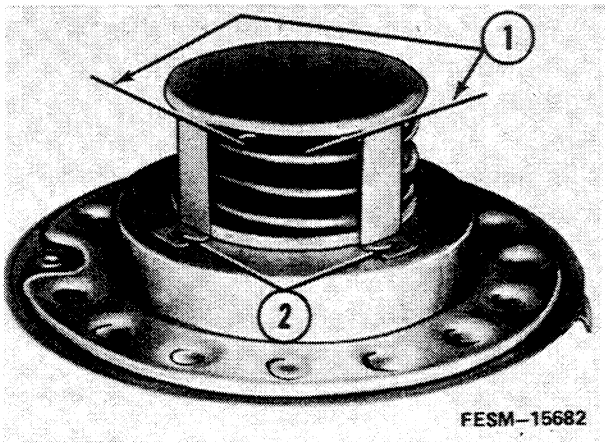
Move the position control lever all the way forward, the lever should spring back very slightly. It should not "bottom" at the forward end of the slot.

Turn the valve adjusting nut until the position control lever moves slightly away from the front end of the slot. If excessive adjustment was necessary at this point, recheck the position control lever adjustment.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Dummy Filter By-Pass Valve



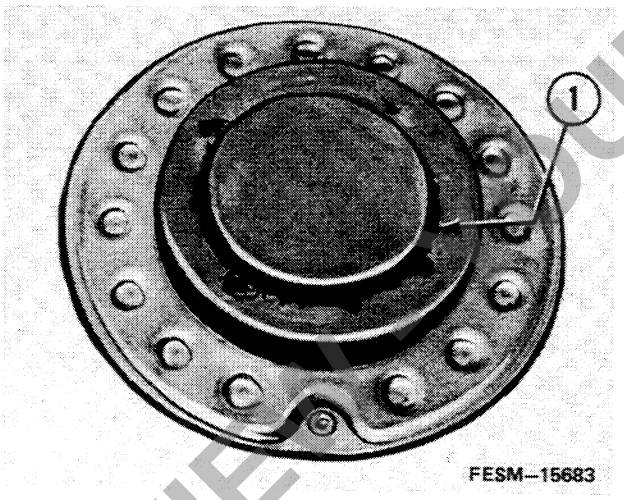
1. Cut legs off
2. Spot welds

NOTE: Two dummy filter by-pass valves will be required for the 50 Series and 2 + 2 tractors.

1. Using a 386 121 R92 filter by-pass valve, break the spot welds holding the spring retainer to the main valve body.

2. Remove the spring and valve plate.

3. Cut the legs off from the spring retainer and file smooth.



1. Solder

4. Place the spring retainer on the valve body and solder in place.

NOTE: Check to insure that there will be no leakage through the solder joint.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 550 pages

The full manual includes:

- All 550 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Case IH 5088, 5288, 5488 Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual