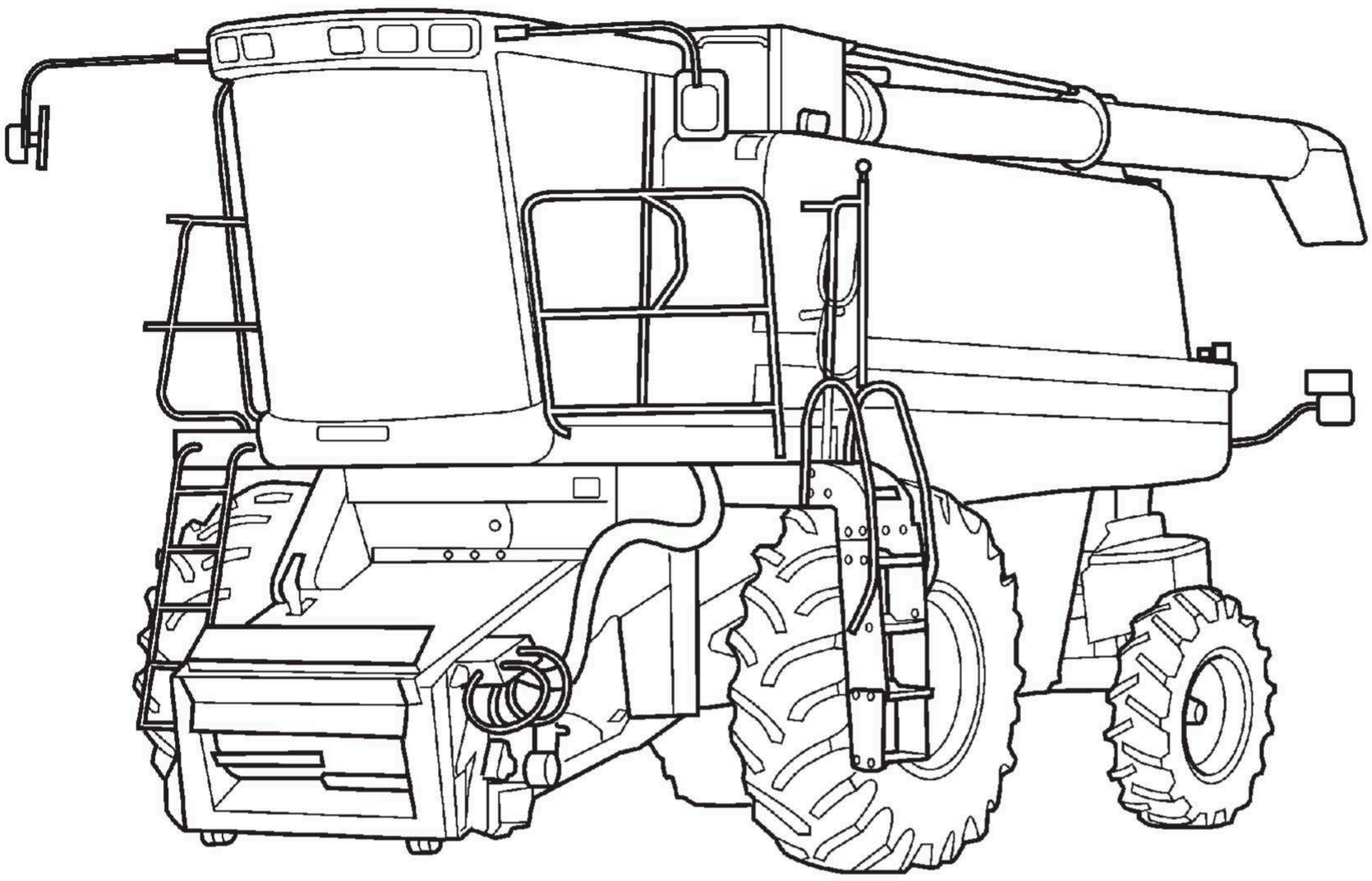


2377 and 2388 Combines

P.I.N. HAJ0292001 and After

Service Manual

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FUEL SYSTEM SERVICE

Refer to Engine Service Manual.

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TORQUE SPECIFICATIONS - DECIMAL HARDWARE

Use the torques in this chart when special torques are not given. These torques apply to fasteners with both UNC and UNF threads as received from suppliers dry, or when lubricated with engine oil. Not applicable if special graphities, Molydisulfide greases, or other extreme pressure lubricants are used.

Grade 5 Bolts, Nuts, and Studs



Size	Pound-Inches	Newton metres
1/4 inch	108 to 132	12 to 15
5/16 inch	204 to 252	23 to 28
3/8 inch	420 to 504	48 to 57
Size	**Pound-Feet**	**Newton metres**
7/16 inch	54 to 64	73 to 87
1/2 inch	80 to 96	109 to 130
9/16 inch	110 to 132	149 to 179
5/8 inch	150 to 180	203 to 244
3/4 inch	270 to 324	366 to 439
7/8 inch	400 to 480	542 to 651
1.0 inch	580 to 696	787 to 944
1-1/8 inch	800 to 880	1085 to 1193
1-1/4 inch	1120 to 1240	1519 to 1681
1-3/8 inch	1460 to 1680	1980 to 2278
1-1/2 inch	1940 to 2200	2631 to 2983

Grade 8 Bolts, Nuts, and Studs



Size	Pound-Inches	Newton metres
1/4 inch	144 to 180	16 to 20
5/16 inch	288 to 348	33 to 39
3/8 inch	540 to 648	61 to 73
Size	**Pound-Feet**	**Newton metres**
7/16 inch	70 to 84	95 to 114
1/2 inch	110 to 132	149 to 179
9/16 inch	160 to 192	217 to 260
5/8 inch	220 to 264	298 to 358
3/4 inch	380 to 456	515 to 618
7/8 inch	600 to 720	814 to 976
1.0 inch	900 to 1080	1220 to 1465
1-1/8 inch	1280 to 1440	1736 to 1953
1-1/4 inch	1820 to 2000	2468 to 2712
1-3/8 inch	2380 to 2720	3227 to 3688
1-1/2 inch	3160 to 3560	4285 to 4827

NOTE: *Use thick nuts with Grade 8 bolts.*

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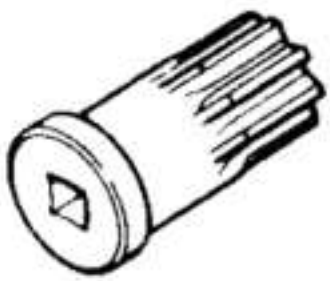
SPECIFICATIONS

Cooling System Capacity ..... 42 U.S. Quarts (39.7 Litres)

SPECIAL TORQUES

Bolts that hold the engine mounts to the frame ..... 100 to 120 lb ft (137 to 163 Nm)

SPECIAL TOOLS



ST-06

CAS-1690 Engine Turn Over Tool

Issued 10-04 Printed in U.S.A

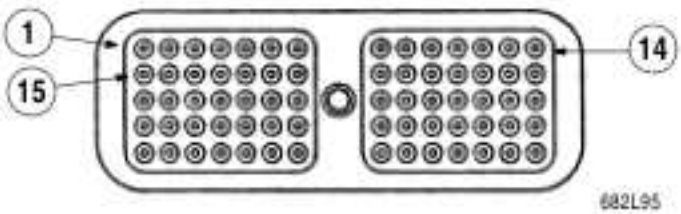
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ELECTRICAL CONNECTORS

CONNECTOR NO. 1

CAB HARNESS TO CENTER HARNESS
(TYPE LX)

LOCATION: Right hand side of cab, behind service door.
FUNCTION: Main harness along R.H. side of grain tank.

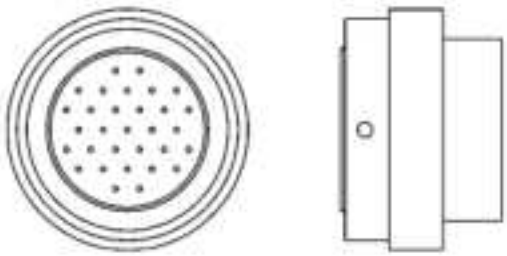


CAVITY	CABLE	CAVITY	CABLE
1	LG-205	36	LG-236
2	LG-204	37	LB-467
3	SHIELD	38	Y-260
4	B-208	39	T-483
5	R-206	40	LB-541
6	B-410A	41	LB-467
7	R-410B	42	LB-373
8	LB-410C	43	LB-374
9	Y-235	44	LB-371
10	Y-258	45	LB-372
11	Y-233	46	LB-375
12	W-610	47	LB-376
13	Y-257	48	Y-273
14	P-707	49	Y-277
15	LG-207	50	LG-240
16	LG-203	51	LG-241
17	Y-255	52	LG-237
18	W-641	53	Y-215
19	R-122	54	LG-235
20	Y-256	55	LG-239
21	V-794	56	LB-468
22	PLUG	57	LG-234
23	P-708	58	Y-216
24	O-815	59	LB-397
25	W-622A	60	V-797
26	PLUG	61	P-757
27	PLUG	62	W-615
28	V-784	63	B/W-115
29	Y-231	64	B/W-200C
30	P-756A	65	R-260
31	O-803	66	PLUG
32	LB-364	67	PLUG
33	G-255	68	PLUG
34	LB-357	69	W-612
35	LB-355	70	W-613

CONNECTOR NO. 2

CAB HARNESS TO FRONT HARNESS
(TYPE NE)

LOCATION: Above connector No. 1, behind service door.
FUNCTION: Harness lays over the top of transmission to L.H. Post area, powers hydraulic valve stack and feeder controls.

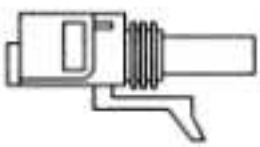


CAVITY	CABLE	CAVITY	CABLE
1	LB-401	17	Y-220
2	LB-402	18	R-445
3	LB-473	19	PLUG
4	LB-408	20	LB-378
5	LB-409C	21	LB-379
6	LB-409B	22	LB-443
7	LB-409A	23	P-757
8	LB-458	24	P-756A
9	LB453	25	LB-318A
10	LB-451	26	LB-318B
11	LB-452	27	LB-318C
12	LB-354	28	LB-446
13	LB-407A	29	PLUG
14	LB-407B	30	PLUG
15	LB-407C	31	PLUG
16	Y-217		

CONNECTOR NO. 3

CAB HARNESS TO RH CAB WARNING LIGHT HARNESS
(TYPE DA)

LOCATION: Behind wiper motor
FUNCTION: Lighting



CAVITY	CABLE
A	P-757 RIGHT
B	B-757

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Rotor Speed Sensor

NOTE: *Make sure the air gap is 0.014 to 0.090 inch (0.35 to 2.28 mm).*

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal 22 for wire 200B Black/White to terminal 38 for wire 217 Yellow	3130 to 3370 ohms	Bad rotor speed sensor. Bad circuit between terminal 22 and terminal 38.

Fan Speed Sensor

NOTE: *Make sure the air gap is 0.014 to 0.090 inch (0.35 to 2.2 mm).*

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal 22 for wire 200B Black/White to terminal 37 for wire 234 Light Green	3130 to 3370 ohms	Bad fan speed sensor. Bad circuit between terminal 22 and terminal 37.

Clean Grain Elevator Speed Sensor

NOTE: *Move the shaft magnet to the center of the sensor. Make sure the air gap is 0.118 inch (3 mm).*

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal 27 to terminal 22.	Less than 40 to 60 ohms	Bad clean grain sensor. Bad circuit between terminal 27 and terminal 22.

Air Filter Restriction Switch

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal A to terminal B	No continuity	Bad restriction switch.
Apply 1.84 inches Hg to switch port and check terminal A to B.	Continuity	Bad restriction switch.

Straw Spreader Speed Sensor

NOTE: *Make sure the air gap is 0.014 to 0.090 inch (0.35 to 2.28 mm).*

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal 32 to terminal 22.	3130 to 3370 ohms	Bad straw spreader sensor. Bad circuit between terminal 16 and terminal 22.

Beater/Chopper Sensor (If Equipped)

NOTE: *Move the shaft magnet to the center of the sensor. Make sure the air gap is 0.118 inch (3 mm).*

Test Points	Good Reading	Possible Cause of Bad Reading
Terminal 33 to terminal 22.	Less than 40 to 60 ohms **NOTE:** *Shaft may have to be turned to close switch.*	Bad beater sensor or wrong sensor. Bad circuit between terminal 33 and terminal 22.

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STEP 38

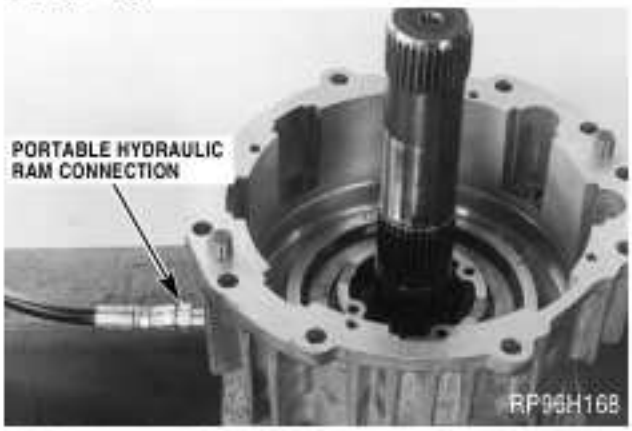


With the housing in the press, use an acceptable tool to CAREFULLY and GRADUALLY apply enough force on the reaction piston to allow for the installation of the retaining ring. Make sure the piston is installed straight. Do not allow the piston to tilt during installation. Install the retaining ring.

STEP 39

Connect the portable hydraulic ram, with an accurate 0 to 500 psi (0 to 3445 kPa) gauge, to the park brake port. Test the park brake for leakage. Bleed the piston several times. With the pressure held at 300 psi (2067 kPa), time the pressure drop for one minute. If the pressure drop is under 15 psi (103 kPa), continue with assembly. If the pressure drop is over 15 psi (103 kPa), disassemble and inspect the pistons for debris or scratches.

STEP 40



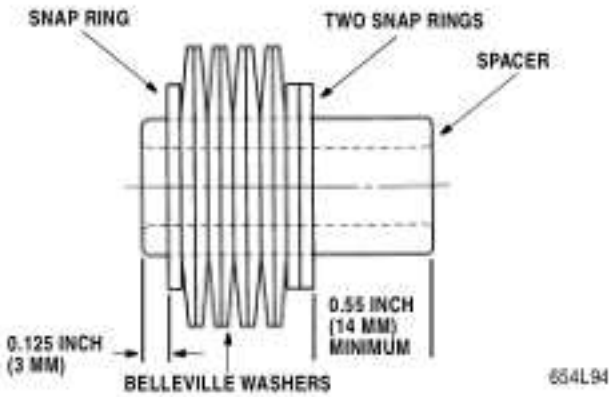
CAREFULLY and GRADUALLY increase the pressure to 300 psi (2067 kPa). Continue to maintain this pressure until the brakes are fully assembled. This will compress the park brake spring assembly so that an accurate free running clearance can be established for the brake discs.

STEP 41



Apply petroleum jelly to the seals on the service piston. Install the service piston in the housing.

STEP 42



Adjust the Belleville washers to the specified dimensions. Install the spring return assemblies with the two snap rings facing upward.

STEP 43



Apply Loctite 222 to the last three threads of the four spring return assembly mounting bolts. Install the spring return assemblies and tighten the bolts to 20 lb ft (27 Nm).

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What if the system does not operate correctly.
Lets look at a couple of "What If".

First we need to set a few specification that are only relevant to these "What Ifs", each machine will have it's own set of specification.

Charge Pressure	**220 psi**
Shuttle Pressure	**160 psi**
Foot-N-Inch Valve	**6400 psi**
Servo Pressure	**Same as charge circuit**

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ELECTRICAL SCHEMATIC
RAC. 87571761

2006 P.I.N. HAJ0295001 AND AFTER
2377 AND 2388 COMBINES

2007 P.I.N. HAJ0300001 AND AFTER
AXIAL FLOW® 2577 AND 2588

LEGEND

INDICATES CONSTANT POWER

INDICATES POWER WHEN KEY SWITCH IS ON

INDICATES POWER WHEN ENGINE OIL PRESSURE SENSED

FAN SPEED ROTOR SPEED ADJUST

CONCAVE ADJUST

H.V.A.C.

H.V.A.C.

LIGHTER HORN DOME LIGHTS

BACKLIGHTING

PWR GUIDE AXLE VARIABLE PROPULSION

HEADER CONTROLLER

HEADER CONTROLLER

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2007 MODEL YEAR ONLY

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FEEDER & SEPARATOR CONTROLS

HEADER TILT

HEADER TILT

HEADER TILT

GRID HEATER

THROTTLE

ENGINE

ENGINE

DIAGNOSTIC CONN. & CAN BUS

REEL CONTROLS

REEL & UNLOADER CONTROLS

UNLOADER CONTROLS

UNLOADER CONTROLS

AFS UNIVERSAL DISPLAY SYSTEM (IF EQUIPPED)

AFS UNIVERSAL DISPLAY SYSTEM (IF EQUIPPED)

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