

Model 615 and 715 Combine Chassis

Service Manual

**Gss-1430
With Revision 2**

Reprinted

CASE III

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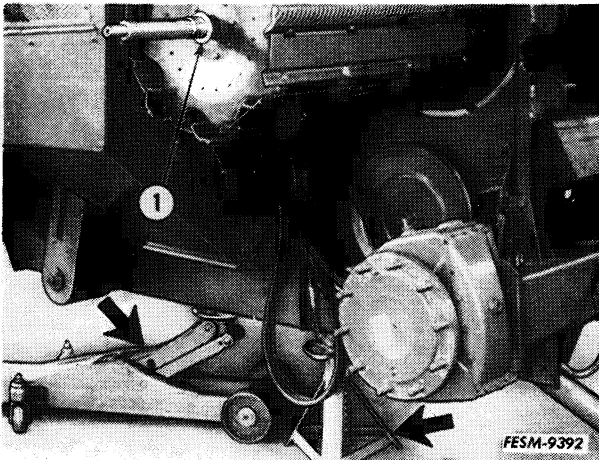
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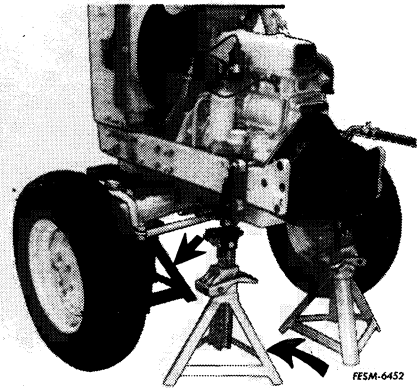
WORK SAFELY – FOLLOW THESE RULES



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



1. 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.



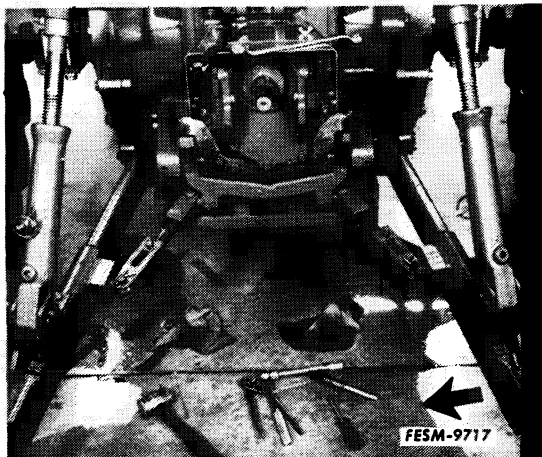
4. When splitting tractors, or disassembling machines, be sure to use safety stands and adequate supports to prevent tipping or roll-over.



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



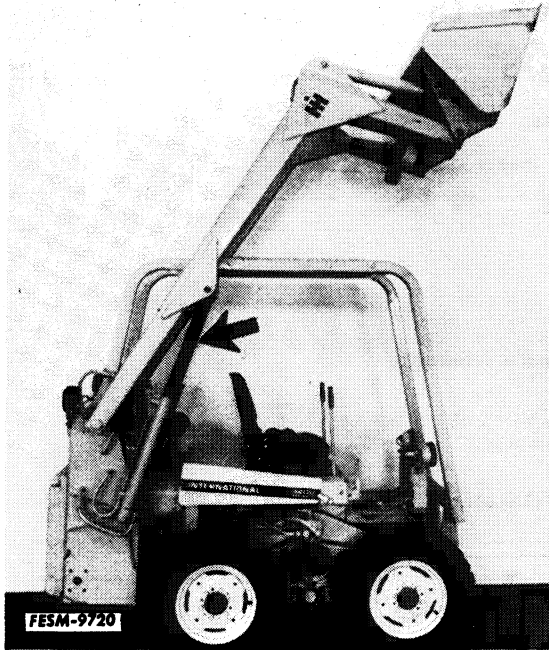
5. Use a safety catch on all hoist hooks. Do not take a chance, the load could slip off of the hook.



3. 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. 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 tanks or hydraulic lines.



7. Always use a safety bar to block hydraulic cylinders. Never rely on the machine hydraulic system to hold when working on loaders etc. A hydraulic line or cylinder could fail or someone could accidentally strike the control levers causing the loader to fall.

8. When reassembling subassemblies, parts, hoses, hydraulic lines, fuel lines, wiring etc., be sure they are positioned properly for alignment and clearance with related parts to their original setting and/or position.

9. Electrical storage batteries give off highly inflammable hydrogen gas when charging and continue to do so for some time after receiving a steady charge. Do not under any circumstances allow an electric spark or an open flame near the battery. Do not lay tools across battery terminals as this may result in a spark or short circuit which may cause an explosion. Be careful to avoid spilling any electrolyte on hands or clothing.

10. Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately.

Do not attempt to repair or tighten hoses that are under pressure, when the boom is raised, or with the tractor engine running. Cycle all hydraulic control valves to relieve all pressure before

disconnecting the lines or performing other work on the hydraulic system. Make sure all connections are tight and hoses and lines are in good condition before applying pressure to the system. To locate a leak under pressure, use a small piece of cardboard or wood. Never use hands.

11. When refueling, keep the hose and nozzle or the funnel and container in contact with the metal of the fuel tank to avoid the possibility of an electric spark igniting the fuel. Do not overfill the fuel tank — overflow creates fire hazard. Do not smoke when refueling. Never refuel when engine is hot or running.

12. Always use a protective fixture when inflating tubeless tires that have been repaired or are loose on the rim. Do not inflate over 30 psi to seat the tire bead.

13. Use pullers to remove bearings, bushings, gears, cylinder sleeves etc. when applicable. Use hammers, punches and chisels only when absolutely necessary. Then, be sure to wear safety glasses.

14. Never use trouble lights or electric powered tools that have cut and/or damaged cords or plugs. Be sure all electric tools are properly grounded.

15. Be careful when using compressed air to dry parts. Use approved air blow guns, do not exceed 30 psi, wear safety glasses or goggles and use proper shielding to protect everyone in the work area.

16. Do not wear rings, wrist watches or loose fitting clothing when working on machinery, they could catch on moving parts causing serious injury.

17. Excessive or repeated skin contact with sealants or solvents may cause skin irritation. In case of skin contact, remove sealant or solvent promptly by washing with soap and water.

IMPORTANT: The above is only a partial list of safe work rules. In addition, always refer to the Operator's Manual for the specific machine for additional safe work rules regarding the machine operation.

STANDARD TORQUE DATA FOR NUTS AND BOLTS— FOOT POUNDS

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

- A. All thread surfaces are clean and lubricated with SAE-30 engine oil. (See NOTE.)
- B. Joints are rigid, that is, no gaskets or compressible materials are used.
- C. 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 parkerized bolts or nuts are used.
- .85 when cadmium plated bolts or nuts and zinc bolts w/waxed zinc nuts are used.
- .90 when hardened surfaces are used under the nut or bolt head.

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	MM	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.4	5	6	5	6	3	3	9	10	11	13	12	14
5/16	8.0	12	13	12	13	6	7	19	21	24	27	27	30
3/8	9.5	21	24	21	24	11	13	33	37	43	47	45	50
7/16	11.1	35	38	35	38	19	21	53	60	69	76	75	85
1/2	12.7	52	58	52	58	29	32	80	90	104	117	115	130
9/16	14.3	70	80	70	80	41	46	115	130	150	170	165	185
5/8	15.9	98	110	98	110	57	63	160	180	210	230	220	250
3/4	19.0	174	195	174	195	100	112	290	320	350	390	400	450
7/8	22.2	300	330	162	181	162	181	420	470	570	630	650	730
1	25.4	420	470	250	270	250	270	630	710	850	950	970	1090
1-1/8	28.6	600	660	350	380	350	380	850	950	1200	1350	1380	1550
1-1/4	31.8	840	940	490	540	490	540	1200	1350	1700	1900	1940	2180
1-3/8	34.9	1100	1230	640	710	640	710	1570	1760	2300	2500	2600	2800
1-1/2	38.1	1470	1640	850	940	850	940	2000	2300	3000	3300	3300	3700
1-3/4	44.5	2350	2450	1330	1490	1330	1490	3300	3700	4700	5200	5300	6000
2	50.8	3500	3900	2000	2200	2000	2200	5000	5500	7000	7800	8000	9000

†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	1 Equivalent or 2	WILL HAVE A STANDARD MONOGRAM IN THE CENTER OF THE HEAD Low or Medium Carbon Steel Not Heat Treated	
5	5	WILL HAVE A AND 3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	8	WILL HAVE A AND 6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

*The center marking identifies the bolt manufacturer. The monogram is currently used. Some bolts may still have an IH or a raised dot which previously identified IH bolts.

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





- .65 when finished jam nuts are used.
- .70 when Molykote, white lead or similar mixtures are used as lubricants.
- .75 when parkerized bolts or nuts are used.
- .85 when cadmium plated bolts or nuts and zinc bolts w/waxed zinc nuts are used.
- .90 when hardened surfaces are used under the nut or bolt head.


1 NEWTON METER = 0.738 FOOT POUND

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)			
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Inches	MM	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.4	7	8	7	8	4	4	12	14	15	18	16	19
	6.0	17	18	17	18	8	10	26	29	33	37	37	41
3/8	9.5	29	33	29	33	15	18	45	50	58	64	61	68
	11.1	48	52	48	52	26	29	72	81	94	103	102	111
1/2	12.7	71	79	71	79	39	43	108	122	141	159	156	176
	14.3	95	108	95	108	56	62	156	176	205	230	225	250
5/8	15.9	133	149	133	133	77	85	220	245	285	310	300	340
	19.0	240	265	240	265	136	152	390	430	470	530	540	610
7/8	22.0	400	450	220	245	220	245	570	640	770	850	880	990
	25.4	570	640	340	365	340	365	850	960	1150	1290	1300	1480
1-1/8	28.6	810	900	470	510	470	510	1150	1290	1630	1830	1870	2100
	31.8	1140	1270	660	730	660	730	1600	1830	2300	2600	2600	3000
1-3/8	34.9	1490	1670	870	960	870	960	2100	2400	3100	3400	3500	3800
	38.1	2000	2200	1150	1270	1150	1270	2700	3100	4100	4500	4500	5000
1-3/4	44.5	3200	3300	1800	2000	1800	2000	4500	5000	6400	7000	7100	8100
	50.8	4750	5300	2700	3000	2700	3000	6800	7500	9500	10500	10800	12200

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

BOLT TYPE IDENTIFICATION CHART

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*The center marking identifies the bolt manufacturer. The  monogram is currently used. Some bolts may still have an IH or a raised dot which previously identified IH bolts.

CONVERSION TABLE

—inches to millimeters—

Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
1	25.4	26	660.4	51	1295.4	76	1930.4
2	50.8	27	685.8	52	1320.8	77	1955.8
3	76.2	28	711.2	53	1346.2	78	1981.2
4	101.6	29	736.6	54	1371.6	79	2006.6
5	127.0	30	762.0	55	1397.0	80	2032.0
6	152.4	31	787.4	56	1422.4	81	2057.4
7	177.8	32	812.8	57	1447.8	82	2082.8
8	203.2	33	838.2	58	1473.2	83	2108.2
9	228.6	34	863.6	59	1498.6	84	2133.6
10	254.0	35	889.0	60	1524.0	85	2159.0
11	279.4	36	914.4	61	1549.4	86	2184.4
12	304.8	37	939.8	62	1574.8	87	2209.8
13	330.2	38	965.2	63	1600.2	88	2235.2
14	355.6	39	990.6	64	1625.6	89	2260.6
15	381.0	40	1016.0	65	1651.0	90	2286.0
16	406.4	41	1041.4	66	1676.4	91	2311.4
17	431.8	42	1066.8	67	1701.8	92	2336.8
18	457.2	43	1092.2	68	1727.2	93	2362.2
19	482.6	44	1117.6	69	1752.6	94	2387.6
20	508.0	45	1143.0	70	1778.0	95	2413.0
21	533.4	46	1168.4	71	1803.4	96	2438.4
22	558.8	47	1193.8	72	1828.8	97	2463.8
23	584.2	48	1219.2	73	1854.2	98	2489.2
24	609.6	49	1244.6	74	1879.6	99	2514.6
25	635.0	50	1270.0	75	1905.0	100	2540.0

1 inch = 25.4 millimeters

To convert inches to millimeters, the inch value to be converted should be written down, carried to as many decimal places as the desired accuracy requires. It should then be split into groups of not more than two figures each. The equivalent of each group should then be taken from the table, proper regard being given to the position of the decimal point in each case, and the equivalent of the inch value given.

For example, to convert 2.4635 inches to millimeters:

2.0000 inches	=	50.80000 millimeters
.4600 inches	=	11.68400
<u>.0035 inches</u>	=	<u>.08890</u>
2.4635 inches	=	62.57290 millimeters
Correct to 3 decimal places.		
2.4635 inches	=	62.573 millimeters

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