



Allis Chalmers

Operator's Manual

6140

Operator's Manual

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AC-O-6140

Operating Controls and Instruments



T-68734

CONTROLS AND INSTRUMENTS

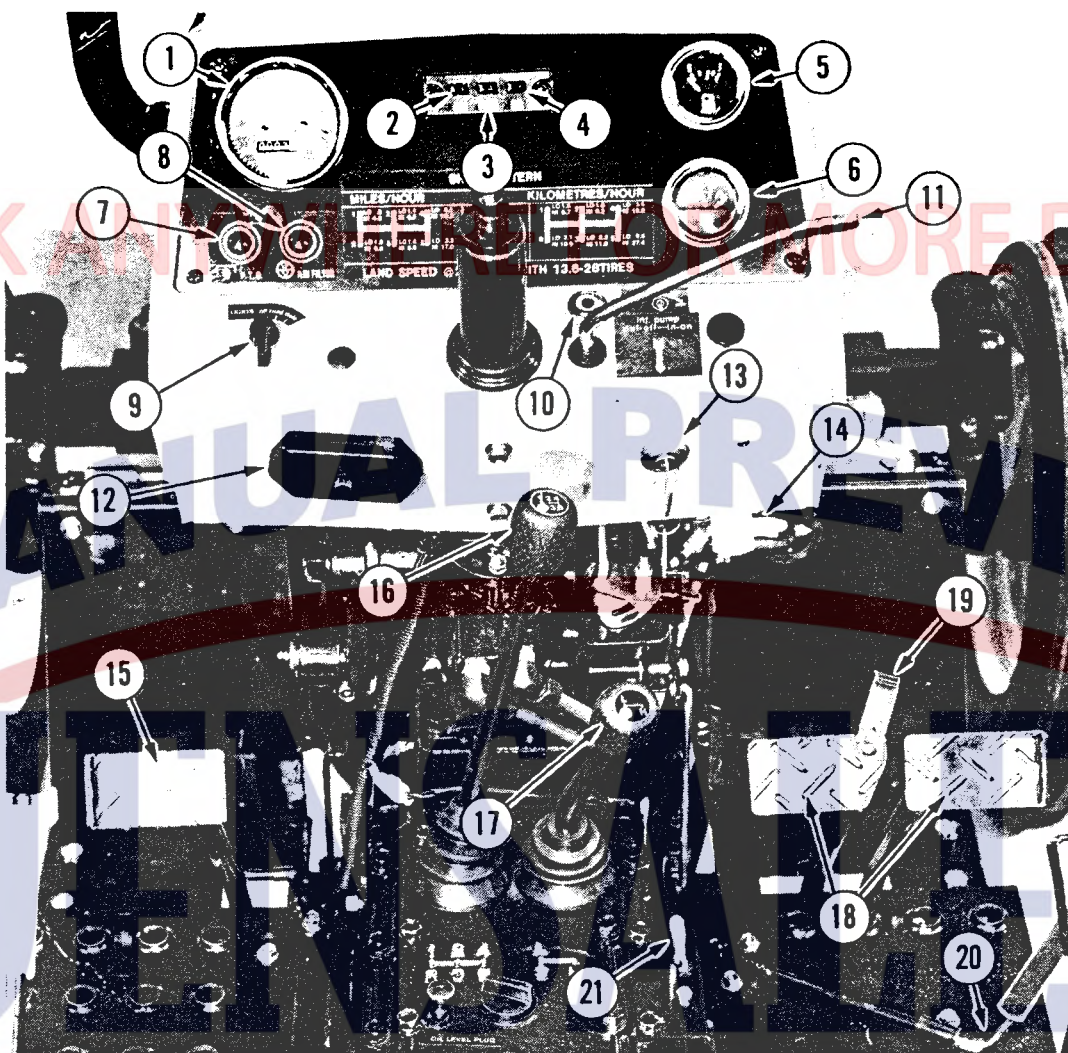
The operator of a tractor must familiarize himself with the various controls and instruments provided for its operation. Although many of these controls are similar to those of other tractors, there are important differences and it is not wise regardless of previous experience to operate the tractor before fully understanding the purpose and function of each control and instrument.



CAUTION: Read, understand and follow the safety precautions located in front section of this manual.

REMEMBER THAT SAFE OPERATION IS NO ACCIDENT.

MAKE CERTAIN YOU UNDERSTAND your tractor controls before attempting to operate.



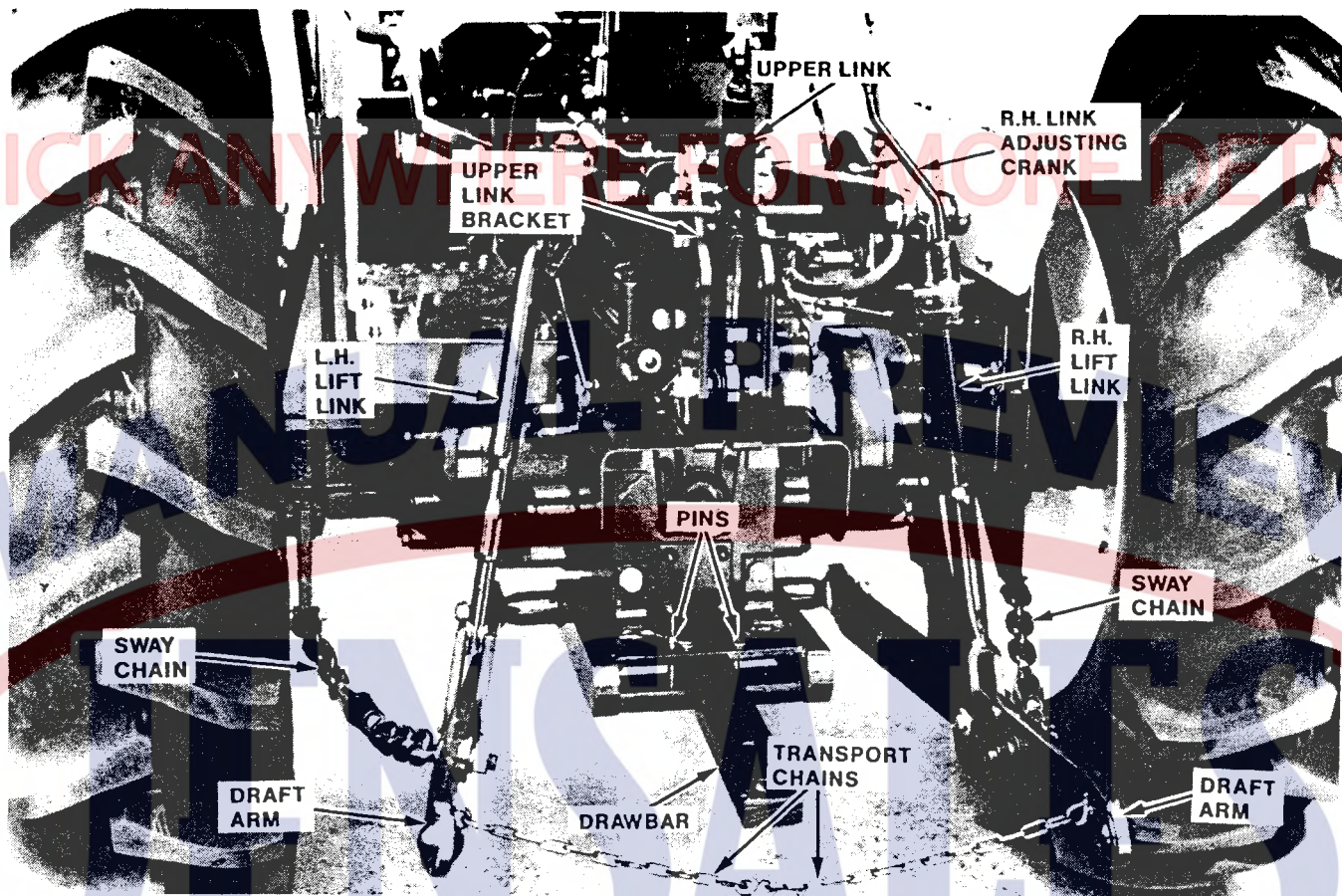
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FIGURE 1 - Operating Controls & Instruments (Steering Wheel Removed)

- | | |
|---|--------------------------------|
| 1. Operation Meter | 11. Hand Throttle Lever |
| 2. Charge Warning Light | 12. Fuse Box |
| 3. Fuel Level Warning Light | 13. Key Switch |
| 4. Engine Oil Pressure Warning Light | 14. Engine Stop Knob |
| 5. Fuel Gauge | 15. Clutch Pedal |
| 6. Temperature Gauge | 16. Transmission Shift Lever |
| 7. P.T.O. Clutch Indicator | 17. Range Shift Lever |
| 8. Air Filter Restriction Warning Light | 18. Brake Pedals |
| 9. Light Switch | 19. Brake Pedal Connecting Tab |
| 10. Glow Plug Indicator | 20. Foot Throttle Pedal |
| | 21. Brake Lock Lever |

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T-68710

FIGURE 1 - 3-Point Hitch

DRAWBAR - THREE-POINT HITCH (Figure 1)

An extendable type drawbar is regular equipment with the three point hitch.

The drawbar has two positions. In the most forward position the rear of drawbar provides a short drawbar length that may be used for hitching where drawbar length is not important.

The second position provides a drawbar length for a 540 RPM power take-off requiring a 14" (356 mm) dimension from end of power take-off shaft to drawbar hitch hole.

The drawbar may be made rigid by inserting pins in drawbar bail, or allowed to swing as desired.

The draft arms, should be raised to prevent interference while using the drawbar.



CAUTION: NEVER permit anyone to examine, clean, service, or adjust the tractor or any equipment operated by it until tractor engine is stopped, TRANSMISSION SHIFT LEVER IS IN NEUTRAL, BRAKES ARE LOCKED, PTO clutch is disengaged, and ALL moving parts have stopped.

TRANSPORT CHAINS (Figure 1)

The purpose of the transport chains is to prevent lower draft arms from contacting rear wheels when tractor is in transport, minus a 3-point hitch implement.

The transport chains should be hooked to each other as shown when tractor is in transport and minus a 3-point hitch implement.

THREE POINT HITCH CONTROLS

For location of these controls, refer to the Operating Controls Section of this manual.

1. Position Control

To actuate the position control system, move the draft control lever to its rearward position. The position of 3-point hitch can then be set by moving the Position Control Lever. Pushing lever all the way forward fully lowers 3-point hitch. Moving it all the way rearward fully raises 3-point hitch. If lever is positioned any, place between these two positions, then 3-point hitch will move and hold at a height proportional to lever displacement. This control is for use with implements that do not require draft control.

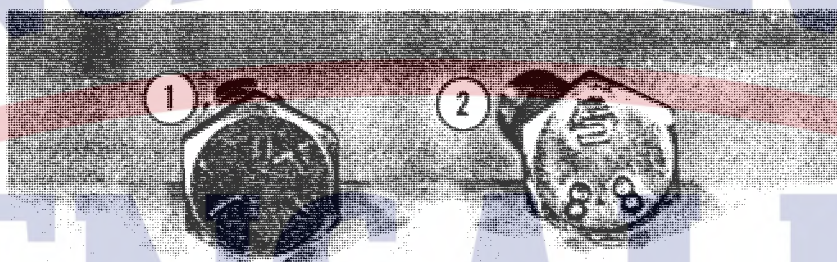
METRIC COMPONENT INFORMATION

In line with the Worldwide trend to Metrication, Allis-Chalmers is participating in this new Technology, which will improve your capabilities through additional standardization.

The following Charts provide helpful information for Identifying Torque Ratings.



CAUTION: This machine may contain some parts dimensioned in the Metric System as well as in the U.S. Inch System. Some fasteners are metric and are very close in dimensions to familiar fasteners in the U.S. Inch System. It is important to note that, during any repair or maintenance procedures, replacement fasteners must have the same measurements and strength as those removed, whether metric or U.S. Inch System. (Numbers on the heads of metric bolts and on surfaces of metric nuts indicate their strength. U.S. Inch System bolts use radial lines for this purpose, while most U.S. Inch System nuts do not have strength markings.) Mismatched or incorrect fasteners can result in damage or malfunction, or possibly personal injury. Therefore, fasteners removed from the machine should be saved for reuse in the same locations. Where the fasteners are not satisfactory for reuse, care should be taken to select a replacement that matches the original.



T-67598

FIGURE 1

1. U.S. Inch

2. Metric

CAPSCREW IDENTIFICATION

Customary Screws

Metric Screws

SAE Grade	Head Marking	Properly Class	Head Marking
1	None	4.6	4.6
2	None	5.8	5.8
5	3 Radial Lines	8.8	8.8
8	6 Radial Lines	10.9	10.9

See Figure 1

The above markings are the most common although others may be encountered.

Customary screw threads are designated by diameter in inches and the pitch in threads per inch.

Examples:

1/2-13 means 1/2 inch diameter, 13 threads per inch (coarse thread).

1/2-20 means 1/2 inch diameter, 20 threads per inch (fine thread).

Metric screw threads are designated by diameter in millimetres and thread pitch in millimetres between threads.

Examples:

12 x 1.75 means 12 mm diameter, 1.75 mm between thread (coarse thread).

12 x 1.50 means 12 mm diameter, 1.50 mm between threads (fine thread).

NOTE: There is usually only 1 coarse and 1 fine thread for each customary diameter, however in metric screws you may have 1 coarse thread and perhaps 3 or more fine threads for a diameter.

Gauges are available for metric threads and are used in the same manner as those for customary threads.

ASSEMBLY TORQUE VALUES FOR METRIC HARDWARE (ALL HARDWARE PLATED OR LUBRICATED)				
PROPERTY CLASS 4.8 (APPROX. SAE GR. 2)				
DIAMETER & PITCH	ZINC PLATED DRY OR LUB		UNPLATED LUBRICATED	
	IN.-LBS.	*N·m	IN.-LBS.	N·m
M2.5 x 0.45	2	.23	1.5	.17
M3 x 0.5	6	.68	4.5	.51
M3.5 x 0.6	9	1	7	.79
M4 x 0.7	14	2	11	1
M5 x 0.8	29	3	22	2
M6 x 1	50	6	38	4
M8 x 1.25	120	14	90	10
	FT.-LBS.	*N·m	FT.-LBS.	N·m
M10 x 1.5	20	27	15	20
M12 x 1.75	35	47	26	35
M14 x 2	55	74	41	56

ASSEMBLY TORQUE VALUES FOR METRIC HARDWARE (ALL HARDWARE PLATED OR LUBRICATED)								
DIAMETER & PITCH	PROPERTY CLASS 8.8 (APPROX. SAE GR. 5)				PROPERTY CLASS 10.9 (APPROX. SAE GR. 8)			
	ZINC PLATED DRY OR LUB.		UNPLATED LUBRICATED		ZINC PLATED DRY OR LUB.		UNPLATED LUBRICATED	
	FT.-LBS.	*N·m	FT.-LBS.	N·m	FT.-LBS.	N·m	FT.-LBS.	N·m
M 5 x 0.8	4	6	5	7	6	8	7	9
M 6 x 1	7	10	8	11	10	14	12	16
M 8 x 1.25	18	24	20	27	25	33	28	38
M 10 x 1.5	34	47	37	53	49	66	54	74
M 12 x 1.75	60	81	67	91	84	114	94	128
M 14 x 2	95	129	107	145	134	182	150	204
M 16 x 2	146	198	164	222	206	279	231	313
M 20 x 2.5	285	386	320	434	400	543	450	610
M 24 x 3	493	668	553	750	690	935	774	1050
M 30 x 3.5	978	1326	1099	1490	1370	1857	1539	2086
M 36 x 4	1707	2314	1918	2600	2390	3241	2686	3642

*N·m = NEWTON METRES



OR



Nut Marking 8 or 9



OR



Nut Marking 10

NOTE: In the diameter and pitch column the bolt designations are:

- M indicates bolt in metric.
- Number following M is the (mm) diameter of the bolt shank.
- The last number is thread pitch which is the distance in (mm) from 1 peak of a thread to the next peak of the adjacent thread.

TORQUE CHART

Use the following chart as a guide for proper torque of all bolts during assembly or maintenance work. Use the

dry column for unplated hardware and the lub column for all plated hardware unless specified otherwise in text.

SUGGESTED ASSEMBLY TORQUE VALUES												
SIZE	SAE GRADE 2 ASSEMBLY TORQUE				SAE GRADE 5 ASSEMBLY TORQUE				GRADE 8 ASSEMBLY TORQUE			
	DRY		LUB		DRY		LUB		DRY		LUB	
	Ft.-Lb.	N·m	Ft.-Lb.	N·m	Ft.-Lb.	N·m	Ft.-Lb.	N·m	Ft.-Lb.	N·m	Ft.-Lb.	N·m
5/16" - 18	11	15	8	11	17	23	13	18	25	34	18	24
5/16" - 24	12	16	9	12	19	26	14	19	27	37	20	27
3/8" - 16	20	27	15	20	30	41	23	31	45	61	35	47
3/8" - 24	23	31	17	23	35	47	25	34	50	68	35	47
7/16" - 14	30	41	23	31	50	68	35	47	70	95	50	68
7/16" - 20	35	47	26	35	55	75	40	54	80	108	60	81
1/2" - 13	50	68	35	47	75	102	55	75	110	140	80	108
1/2" - 20	55	75	40	54	85	115	65	88	120	163	90	122
9/16" - 12	70	95	50	68	110	149	80	108	150	203	110	149
9/16" - 18	80	108	60	81	120	163	90	122	170	230	130	176
5/8" - 11	95	129	70	95	150	203	110	149	210	285	160	217
5/8" - 18	110	149	80	108	170	230	130	176	240	325	180	244
3/4" - 10	170	230	125	169	265	359	200	271	375	508	280	380
3/4" - 16	190	258	140	190	300	407	225	305	420	569	315	427
7/8" - 9	165	224	120	163	430	583	320	434	600	813	450	610
7/8" - 14	185	251	135	183	475	644	360	488	670	908	500	678
1" - 8	250	339	190	258	645	874	480	651	900	1220	675	915
1" - 12	280	380	210	285	720	976	540	732	1000	1356	750	1017
GRADE 2 NO MARKS				GRADE 5 3 MARKS				GRADE 8 6 MARKS				
												

The following chart is included for your convenience in converting fractions to decimals or the metric equivalent.

CONVERSION CHART					
FRACTION	DECIMAL	METRIC	FRACTION	DECIMAL	METRIC
1/32"	.031	.79 mm	17/32"	.531	13.49 mm
1/16"	.062	1.59 mm	9/16"	.562	14.29 mm
3/32"	.094	2.38 mm	19/32"	.594	15.08 mm
1/8"	.125	3.17 mm	5/8"	.625	15.87 mm
5/32"	.156	3.97 mm	21/32"	.656	16.77 mm
3/16"	.187	4.76 mm	11/16"	.687	17.46 mm
7/32"	.219	5.56 mm	23/32"	.719	18.26 mm
1/4"	.250	6.35 mm	3/4"	.75	19.05 mm
9/32"	.281	7.14 mm	25/32"	.781	19.84 mm
5/16"	.312	7.94 mm	13/16"	.812	20.64 mm
11/32"	.344	8.73 mm	27/32"	.844	21.43 mm
3/8"	.375	9.53 mm	7/8"	.875	22.23 mm
13/32"	.406	10.32 mm	29/32"	.906	23.02 mm
7/16"	.437	11.11 mm	15/16"	.937	23.81 mm
15/32"	.469	11.91 mm	31/32"	.969	24.61 mm
1/2"	.50	12.7 mm	1"	1.0	25.4 mm