

Service Manual

02

Truck Crane

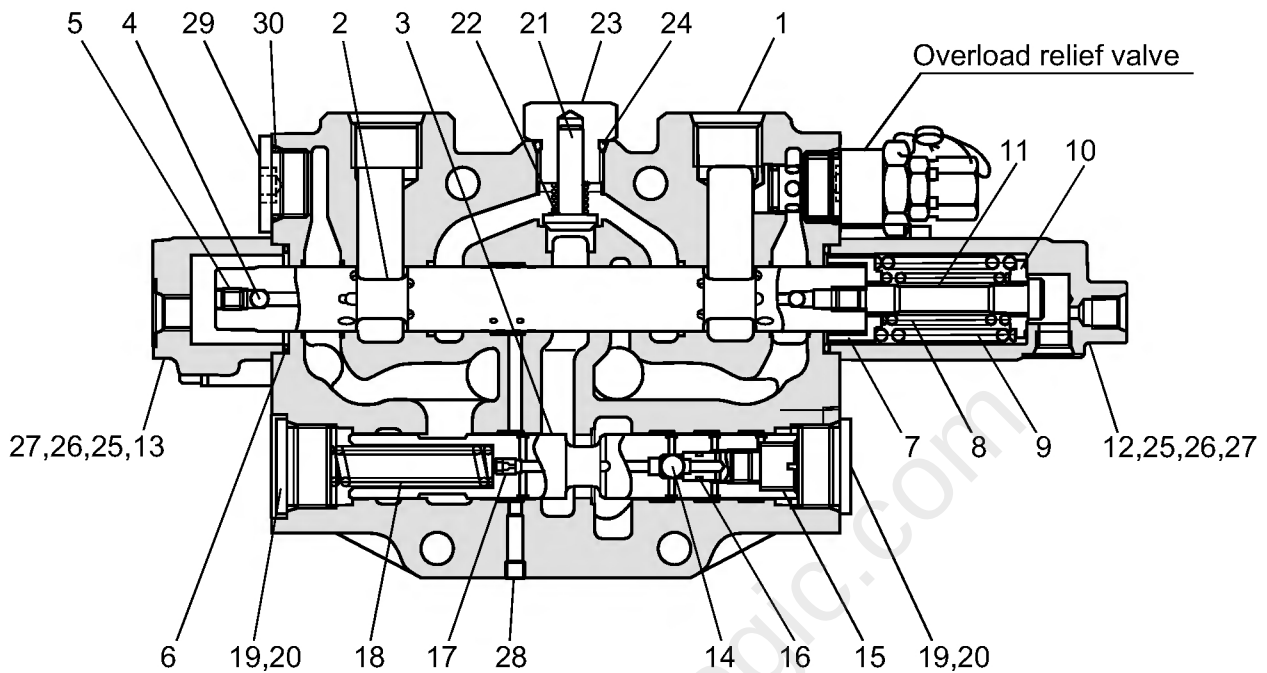
Model **GT-900XL-1**

Applicable Serial No. 475376 --

TADANO LTD.

Hydraulic Pilot Control Valve (Elevating, Telescoping, Winch)

Telescoping selector valve



F-F (Telescoping)

IW134-0270E03

- | | | | |
|-------------------------------------|------------------|---------------------------------|------------------------------|
| 1. Telescoping selector valve body | 7. Spring seat | 15. Plug (shuttle valve) | 23. Plug (check valve) |
| 2. Spool (telescoping) | 8. Return spring | 16. O-ring | 24. O-ring |
| 3. Flow control valve (telescoping) | 9. Return spring | 17. Orifice | 25. Hexagon socket head bolt |
| 4. Steel ball | 10. Spring seat | 18. Spring (flow control valve) | 26. Plain washer |
| 5. Hexagon socket set screw | 11. Spool end | 19. Plug | 27. Spring washer |
| 6. O-ring | 12. Pilot cover | 20. O-ring | 28. Plug |
| | 13. Pilot cover | 21. Check valve | 29. Plug |
| | 14. Steel ball | 22. Spring (check valve) | 30. O-ring |

Thread size and tightening torque

Sign / port	Thread size	Tightening torque		
		N-m	kgf-m	ft-lbf
Overload relief valve (Telescoping)	M27×1.5	77 - 88	8 - 9	58 - 65
5* ¹	M8	12 - 14	1.2 - 1.4	8.5 - 10
11* ¹	-	18 - 20	1.8 - 2	13 - 14
15* ¹	-	18 - 20	1.8 - 2	13 - 14
17* ²	M6	5 - 6	0.5 - 0.6	3.5 - 4.5
19	M33	98 - 118	10 - 12	72 - 87
23	-	78.5 - 88.3	8 - 9	58 - 65
25	M8	27.5 - 29.4	2.8 - 3	20 - 22
28	-	10 - 12	1 - 1.2	7 - 9
29	G3/4	78.5 - 88.3	8 - 9	58 - 65

*1: Apply LOCTITE 242 (thread locking agent) to threaded sections.

*2: Apply LOCTITE 270 (thread locking agent) to threaded sections.

Elevating System

E-1 Elevating System

1. Description of the units

1.1 Elevating cylinder

1. The elevating cylinder serve to elevate the boom.
2. A pressure sensor is installed to input the value to the AML for calculating load moment.

1.2 Counterbalance valve

1. This valve serves to prevent the cylinder piston rod from pushed in by the load during boom lowering to maintain the lowering speed at a level determined by the oil entry flow rate to the cylinder.
2. It also prevent the retraction of the piston rod when the piping between it and the manual control valve is broken.

1.3 Select valve (dolly)

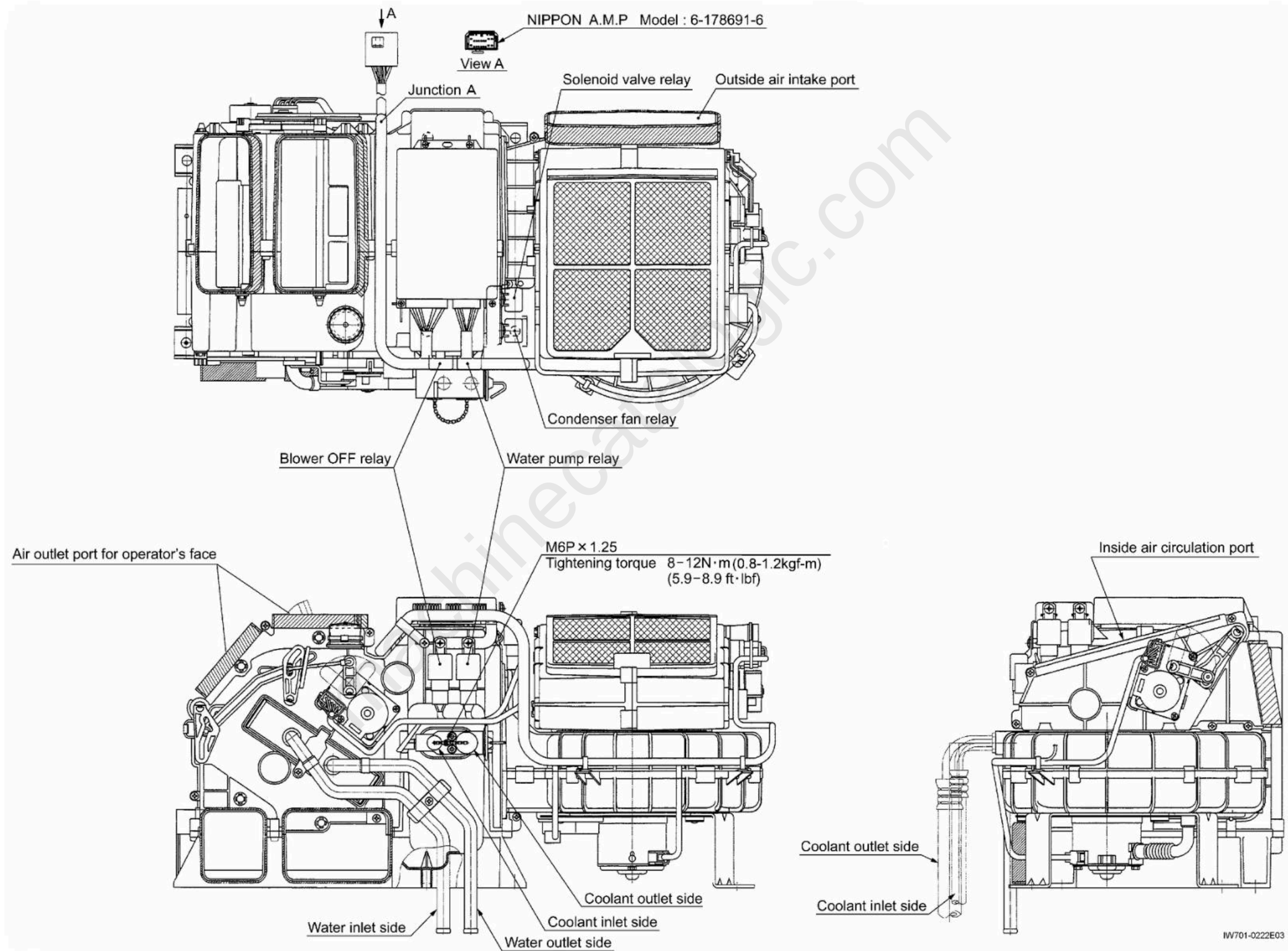
1. To travel with a dolly hitched to the rear of the carrier, it is required that the hydraulic circuits for the boom elevating cylinder and swing motor be free so that the boom can follow the movements of the dolly while travelling.

Jib

1.Jib 2	15.Pin assy	29.Roller assy	43.Spacer
2.Jib1	16.Spacer	30.Spacer	44.Pin
3.Support	17.Sheave assy	31.Pin	45.Bolt
4.Snap pin	18.Plate	32.Bar	46.Spring washer
5.Pin	19.Pin	33.Pin	47.Roller assy
6.Pin	20.-----	34.Split pin	48.Pin
7.Retaining ring	21.Link	35.Plate	49.Spacer
8.Sheave assy	22.Plate	36.Pin assy	50.Snap pin
9.Grease nipple	23.Plate	37.Nut	51.Spacer
10.Pin	24.Plate	38.Bolt	△5 52.Pin
11.Snap pin	25.Pin	39.Plate	△5 53.Pin
12.Guide assy	26.Plain washer	40.Pin assy	△5 54.Spacer
13.Bolt	27.Split pin	41.Pin	
14.Spring washer	28.Stopper	42.Support	

Air Conditioner

6. Evaporator Assy



Remote Control Valve (Pedal)

Thread size and tightening torque

Sign / Port	Thread size	Tightening torque		
		N-m	kgf-m	ft-lbf
272	M8	19.1 - 22.1	1.95 - 2.35	14.1 - 16.3
271	M6	8.7 - 8.9	0.89 - 0.91	6.4 - 6.6
251	G1/4	27.4 - 31.4	2.8 - 3.2	20.2 - 23.2
315	M12	56.3 - 61.3	5.7 - 6.3	41.5 - 45.2
472	M6	5.9 - 7.9	0.6 - 0.8	4.4 - 5.8
		Apply LOCTITE 241		
473	M8	15.2 - 18.2	1.55 - 1.85	11.2 - 13.4
P, T	G1/4	27.4 - 31.4	2.8 - 3.2	20.2 - 23.2
Port 1,2,3,4,5,6	G1/4	27.4 - 31.4	2.8 - 3.2	20.2 - 23.2

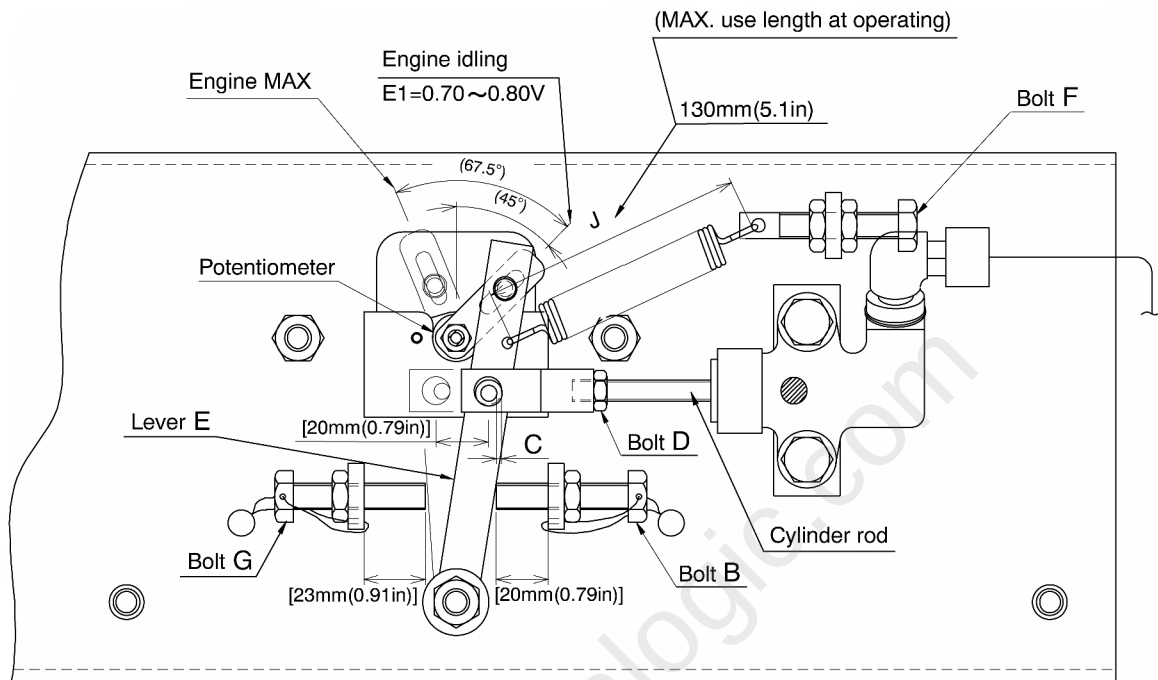
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366-377-50000 

Adjustment and Checks

Y-5 Adjustment and Checks

1. Engine speed adjustment procedure



Link Assy

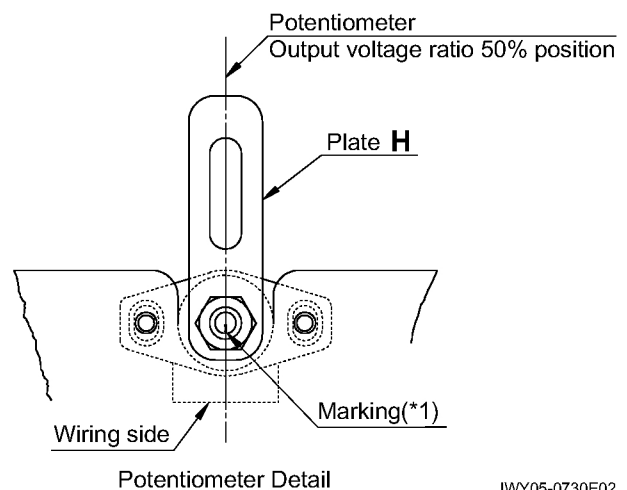
IWY05-1760E01

1.1 Speed control

1. Apply grease to the rotating part and the sliding area.
2. Set the crane/carrier operation select switch in the carrier cab to "1" carrier side, turn the PTO switch OFF, and start the engine.
(Never set the crane/carrier operation select switch to "2" crane side before adjusting this because the engine speed will rise rapidly.)
3. Install the potentiometer as shown in the above detail drawing. Pull the return spring about 10 mm (0.394 in), and fix the link to the idling position. Connect the connector of potentiometer, and measure the voltage E1 between white and black wires on the potentiometer side by using the measurement jig.

Adjust the idling position with bolt B to become $E1=0.70-0.80V$, and seal the bolt B.
Adjust the voltage at idling as becoming 14-16% for applied voltage of 5.0V between red and black wires.
Be careful about not engaging of PTO by

operating the transmission interlock because of exceeding the idling range if voltage E1 becomes 1.0V or more.



IWY05-0730E02

(*1): Confirm the mark on the potentiometer shank is turning in the direction of wiring side and the plate H is installed in parallel to the mark.

Full Version Available

Tadano GT-900XL-1 Truck Crane Service Manual

Tadano GT-900XL-1 truck crane service manual with repair procedures, adjustments and troubleshooting for the main systems. Instant PDF download.

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