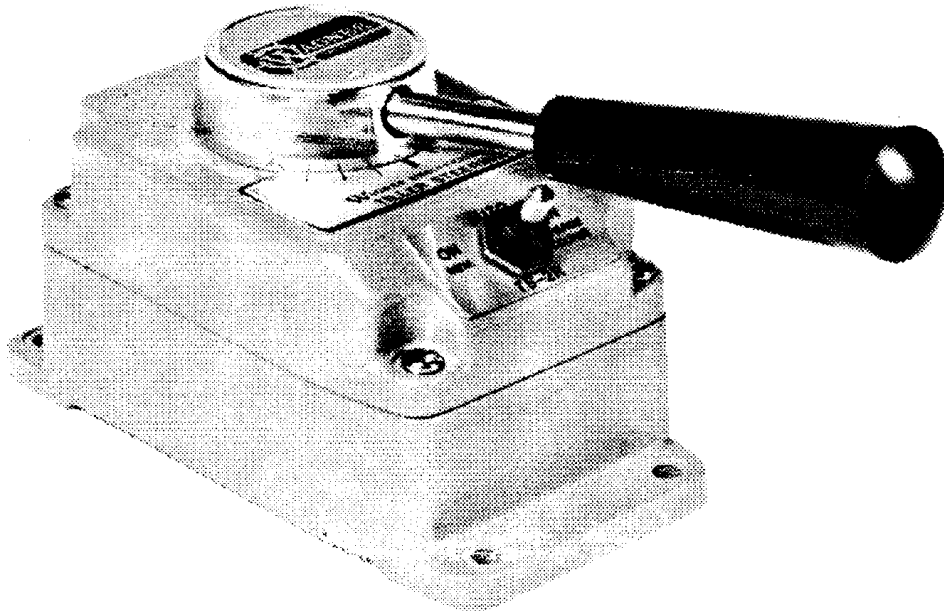




TS-2R REMOTE CONTROL
(P/N 510-152)

Reference:  
P/N 790-028

ISSUE:  
October/84



The TS-2R Remote Control is used with a Wagner MK4 Autopilot. It is normally mounted in a fixed position and is supplied with 15 metres (50 ft) of prewired cable. The controller has the following functions:

A. AUTO POSITION

Normal Autopilot operation position

B. ON MEM (MEMORY) POSITION

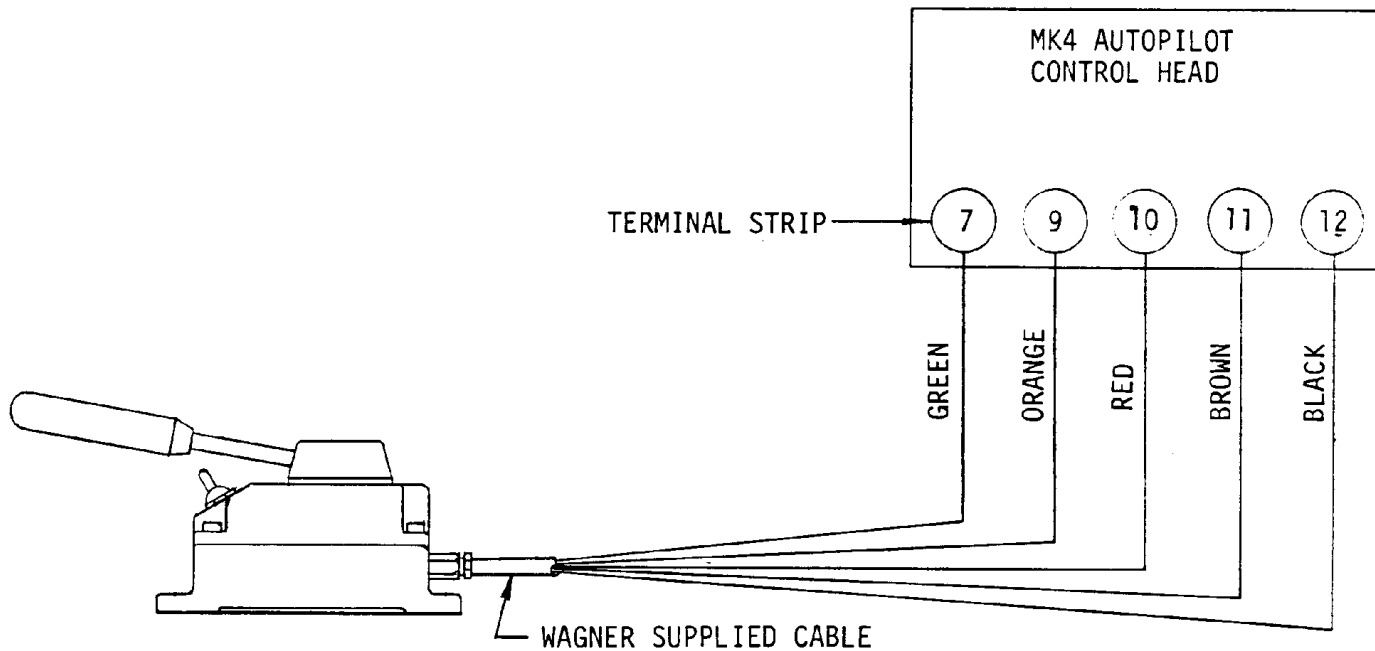
The Autopilot does not operate in this position. However, it memorizes the last Autopilot course the vessel was steering. The TS-2R lever may now be turned to steer the vessel. The rudder angle will be proportional to the lever angle. If the toggle switch is returned to the AUTO position, the Autopilot steers the memorized course.

C. ON CC (COURSE CHANGE) POSITION

With the toggle switch in this position, the vessel may be steered with the lever to a new heading. Holding the new heading for a moment and then returning the toggle switch to the AUTO position locks the Autopilot on to this new heading.

## ELECTRICAL CONNECTIONS

All electrical connections must be positively secured and adequately insulated. A loose wire or short circuit could cause an erroneous steering command. In order to hide the cable, the cable gland may be repositioned to the bottom of the TS-2R housing. Simply exchange the gland fitting with the housing seal plug, separate the housing top and bottom and re-direct the cable through the newly positioned gland.



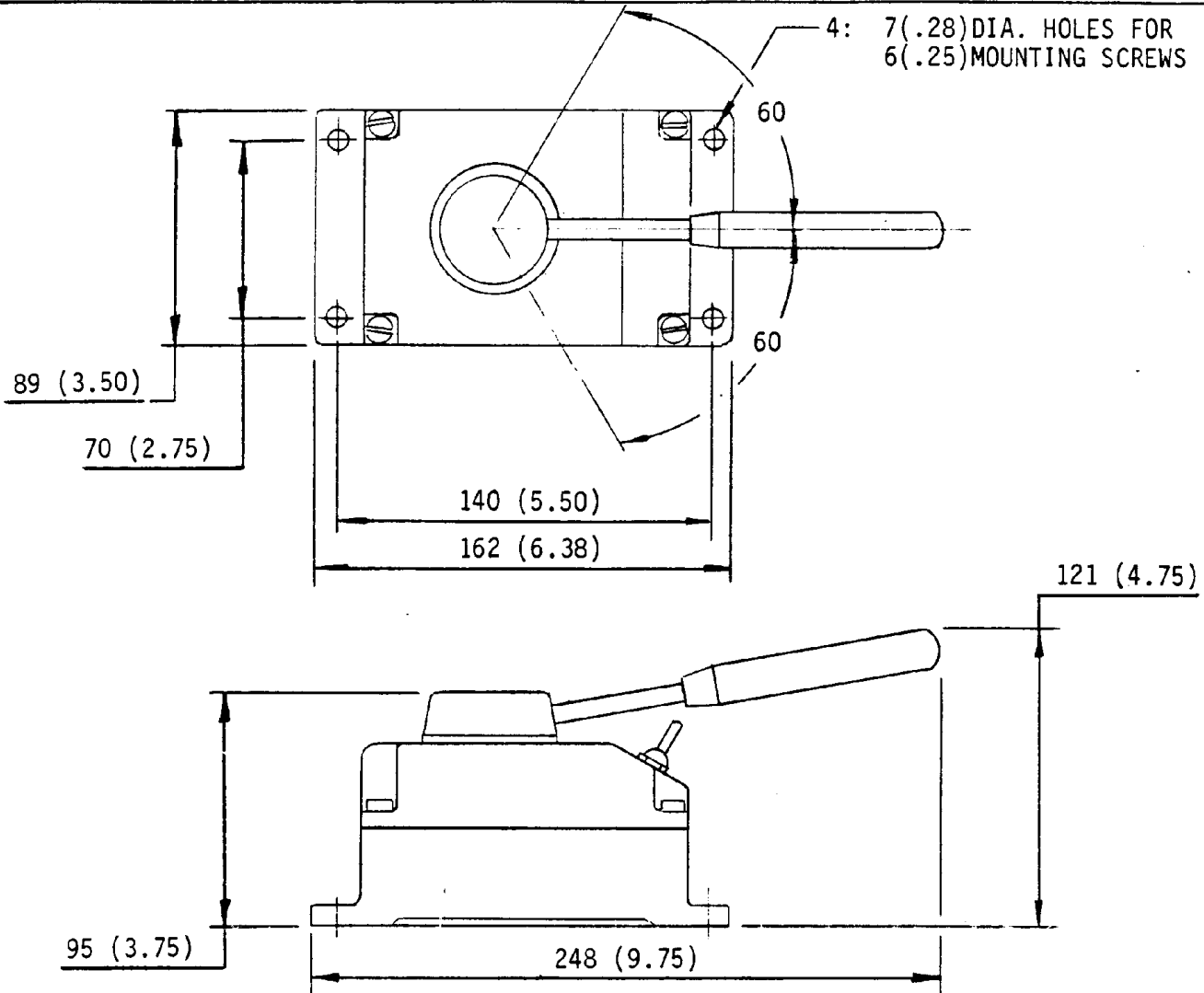
## DOCKSIDE TESTING THE TS-2R

- A. Set the MK4 control unit function switch to AUTOPILOT.
- B. Move the TS-2R toggle switch to the AUTO position. Be certain that the Autopilot pumpset is operating. Moving the TS-2R lever should not make the rudder move.
- C. Move the TS-2R toggle switch to the ON CC position and rotate the TS-2R lever. The rudder should move to a position corresponding with the TS-2R lever.
- D. Manually rotate the change course knob on the front of the MK4 control unit. The course change dial should automatically return to the vessel's heading.
- E. Move the TS-2R toggle switch to the ON MEM position. The rudder should now move to a position corresponding to the TS-2R lever. Manually rotate the course change knob on the MK4 control unit. The course dial should remain at the position it is turned to.

Note - If the above tests cannot be completed successfully recheck all wiring connections.

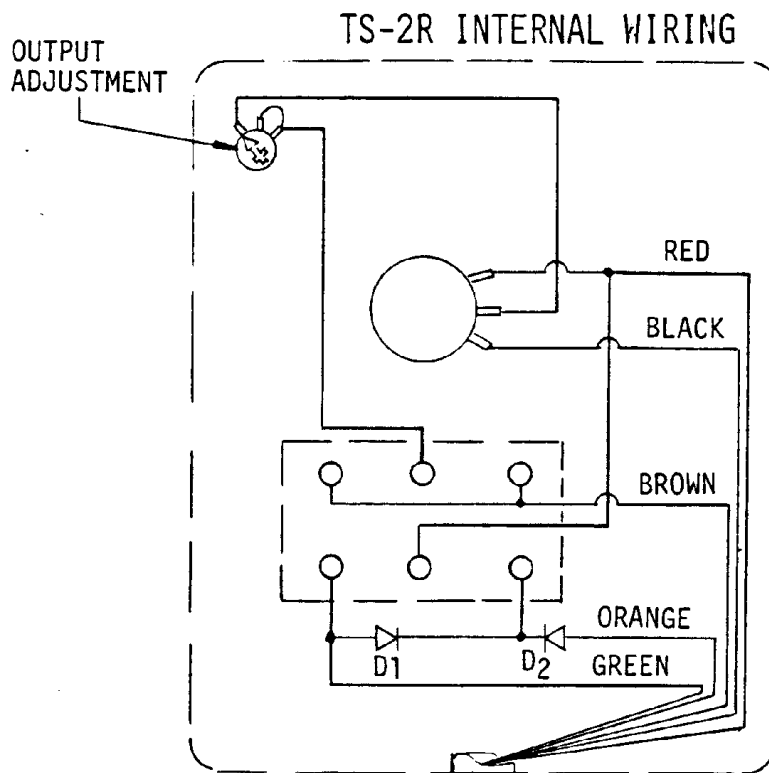
## ADJUSTING THE TS-2R

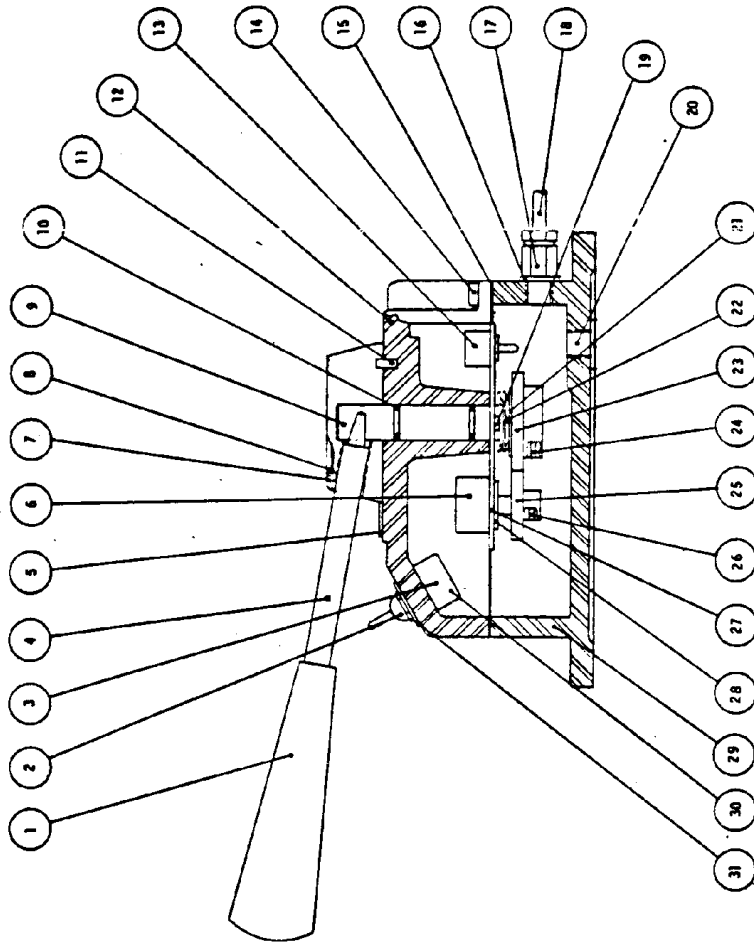
The small trimpot mounted inside the TS-2R housing should be adjusted so that the steering gear stops a few degrees before either hardover position is reached. This trimpot is factory pre-set and normally should not require adjustment. While operating the steering gear with the TS-2R lever, adjust the RT5 internal control found inside the MK4 control unit to position 10. Slowly turn the RT5 counterclockwise until the steering stops oscillating (hunting). Adjust each TS-2R in multiple stations.




OVERALL DIMENSIONS

ALL DIMENSIONS IN MM (INCHES)





ITEM	QTY	PART NO.	DESCRIPTION
1	1	620-009	HANDLE KNOB
2	1	211-002	TOGGLE SWITCH SEAL
3	1	210-018	TOGGLE SWITCH
4	1	690-013	LEVER SHAFT
5	1	660-026	LABEL (BODY)
6	1	126-001	POTENTIOMETER
7	1	690-012	HUB
8	1	660-017	LABEL (HUB)
9	1	690-078	DRIVE SHAFT
10	2	615-010	O-RING
11	1	690-014	HUB STOP
12	1	690-223	UPPER HOUSING
13	1	130-024	TRIMPOT
14	4	603-079	MACHINE SCREW
15	1	617-007	GASKET
16	2	610-011	WASHER (NYLON)
17	1	610-009	CABLE GLAND
18	50	750-105	CABLE
19	2	603-072	MACHINE SCREW
20	1	610-013	PLUG (STOPPING)
21	4	604-013	WASHER
22	6	605-010	SPRING WASHER
23	1	650-132	GEAR NYLON 44T
24	1	600-052	ROLL PIN
25	1	650-108	GEAR NYLON 20T
26	1	600-048	ROLL PIN
27	1	670-034	POT BRACKET
28	1	604-009	WASHER
29	1	690-222	LOWER HOUSING
30	2	300-003	DIODE (1M4005)
31	1	660-027	SWITCH LABEL

DETAIL	QUANTITY	DESCRIPTION	MATERIAL
 <b>WAGNER ENGINEERING LTD.</b> <small>40 GOSTICK PLACE, NORTH VANCOUVER, B. C. CANADA V1M 3G3</small> <small>MANUFACTURERS OF MARINE HYDRAULIC STEERING GEARS AND AUTOMATIC PILOTS</small>			
TITLE			
PARTS LIST FOR TS-2R			
DATE	SCALE	QUOTE NO	REV.
AUG. /24			6-222
REVISION NOTES			