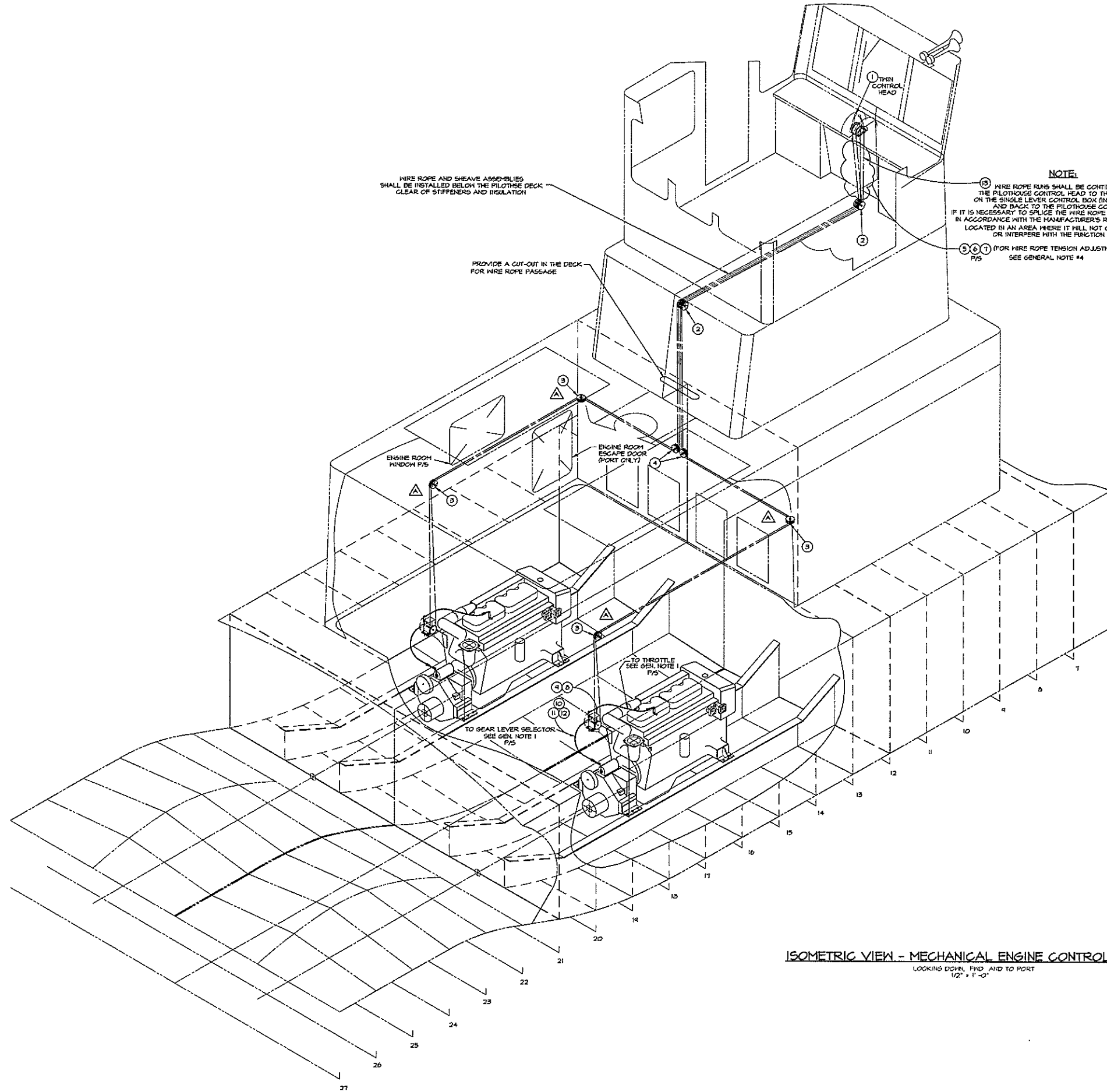


REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	FIRST ISSUE	9/22/99	
A	INCORPORATE BUILDER'S COMMENTS FROM Q104101 RELOCATING ENGINE CONTROL CABLES TO JUST ABOVE THE WINDOWS & ABOVE THE ESCAPE DOOR TO CLEAR ELECTRICAL BOXES.		01/05/01



**NOTE:**  
 WIRE ROPE RUNS SHALL BE CONTINUOUS FROM THE PILOTHOUSE CONTROL HEAD TO THE POWER SHEAVE ON THE SINGLE LEVER CONTROL BOX (IN THE ENGINE ROOM) AND BACK TO THE PILOTHOUSE CONTROL HEAD. IF IT IS NECESSARY TO SPLICE THE WIRE ROPE RUN, IT SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND LOCATED IN AN AREA WHERE IT WILL NOT CAUSE BODILY HARM OR INTERFERE WITH THE FUNCTION OF THE RUN.  
 (3, 6, 7) (FOR WIRE ROPE TENSION ADJUSTMENT) SEE GENERAL NOTE #4

**GENERAL NOTES:**

- FIG. NOS. 8, 9, 10, 11 & 12 SHALL BE MOUNTED OFF THE MAIN ENGINE OR GEAR BOX ON A SEPARATE FOUNDATION TO SUIT THE EQUIPMENT AND PROVIDE THE BEST LOCATION TO INSURE A SMOOTH MOVEMENT OF LEVERS AND LINKAGE TO GEARS AND THROTTLE.
- PROVIDE SUPPORTS FOR SHEAVE ASSEMBLIES AND SINGLE LEVER CONTROL BOXES. THE SHEAVE ABOVE THE SINGLE LEVER CONTROL BOX MAY BE MOUNTED ON A SEPARATE BRACKET FOUNDATION OFF THE ENGINE OR OFF THE CONTROL BOX FOUNDATION.
- SUPPORT SHEAVES FROM CLOSEST STRUCTURE CLEAR OF STIFFENERS AND INSULATION. KEEP WIRE ROPE RUNS CLEAR OF ENGINE REMOVAL HATCH, WORKING AREA AND WALKING AREAS.
- TENSION CABLES TO ELIMINATE SLACK (INSIDE PILOTHOUSE CONSOLE). GOTTER ALL TURNBUCKLES AND BE SURE SYSTEM OPERATES SMOOTHLY AND WITHOUT INTERFERENCE.
- FOR MAINTENANCE PURPOSE, STAINLESS STEEL FASTENERS SHOULD BE USED FOR THE INSTALLATION OF THE CONTROL SYSTEM EQUIPMENT.
- ALL FOUNDATIONS AND BRACKETS SHALL BE ADEQUATE TO SUPPORT THE EQUIPMENT'S FUNCTION AND BUILT IN ACCORDANCE TO THE SHIPYARD'S STANDARD PRACTICES AND DETAILS.
- PROVIDE ONE SPARE INTERNAL CABLE OF EACH LENGTH FOR THROTTLE AND SHIFT ACTUATORS.

NOTE: MATERIAL DESCRIPTIONS ARE TAKEN FROM KOBELT MANUFACTURING COMPANY LIMITED. FOR EQUAL PARTS AND PIECES MAY BE USED.

SEE GENERAL NOTE #1

ITEM	QUAN.	DESCRIPTION	MATERIAL/SPECIFICATION/REMARKS
15	-	-	-
14	-	-	-
13	16	WIRE ROPE 1/8" - 7 X 19 (APPROX 60 L/F)	STSLS KOBELT #2331-0004 OR EQ.
12	2	BELL CRANK (2) 204-02-B + SHAFT	KOBELT #2346-C
11	2	SLACKROD FOR 2350 (FULL TYPE)	KOBELT #2350-A
10	4	LEVER, 5" L.G., 6 HOLE, 5/8" BORE	KOBELT #2104-0001-B
9	2	#306 SHEAVE, 5 1/4", UNBORED	KOBELT #2303-0003
8	2	SINGLE LEVER CONTROL BOX	KOBELT # 2310
7	4	FERRULES, 1/8"	COPPER KOBELT #2351-0004 OR EQ.
6	4	THIMBLE, 3/32" TO 1/8"	KOBELT #2352-0004 OR EQ.
5	2	TURNBUCKLE, 4 1/4"	KOBELT #2353-0004 OR EQ.
4	2	SHEAVE ASSY., FACE MNT, 2 SH	BRONZE KOBELT # 2340-2000
3	4	SHEAVE ASSEMBLY, UPRIGHT, 2 SH	BRONZE KOBELT # 2344-2000
2	2	SHEAVE ASSEMBLY, UPRIGHT, 4 SH	BRONZE KOBELT # 2344-4000
1	1	K/P CONTROL 15-IL HANDL, DT, FR	VARIES KOBELT # 2212-B0K

**ISOMETRIC VIEW - MECHANICAL ENGINE CONTROL SYSTEM**

LOOKING DOWN, FWD AND TO PORT  
 1/2" = 1'-0"

BILL OF MATERIALS	
DWN. C.J. BALESTRERI	TGMD, Inc. / Timothy Graul marine design
APPD.	naval architects marine engineers
DATE 20 SEPT, 1999	Sturgeon Bay, WI 54235
PROJECT 55'-0"x 18'-0"x 7'-0" BRUSSELS FERRY PUSHBOAT	Project No. 99005
IDOT JOB D-48-078-99	Scale: 1/2" = 1'-0"
ILLINOIS DEPARTMENT OF TRANSPORTATION	REV. A Date 01/05/01
TITLE MACHINERY CONTROL SYSTEM	Drawing No. 252-101

Proj: 99005 Dwg: 252-101 Rev. A Title: MACHINERY CONTROL SYSTEM