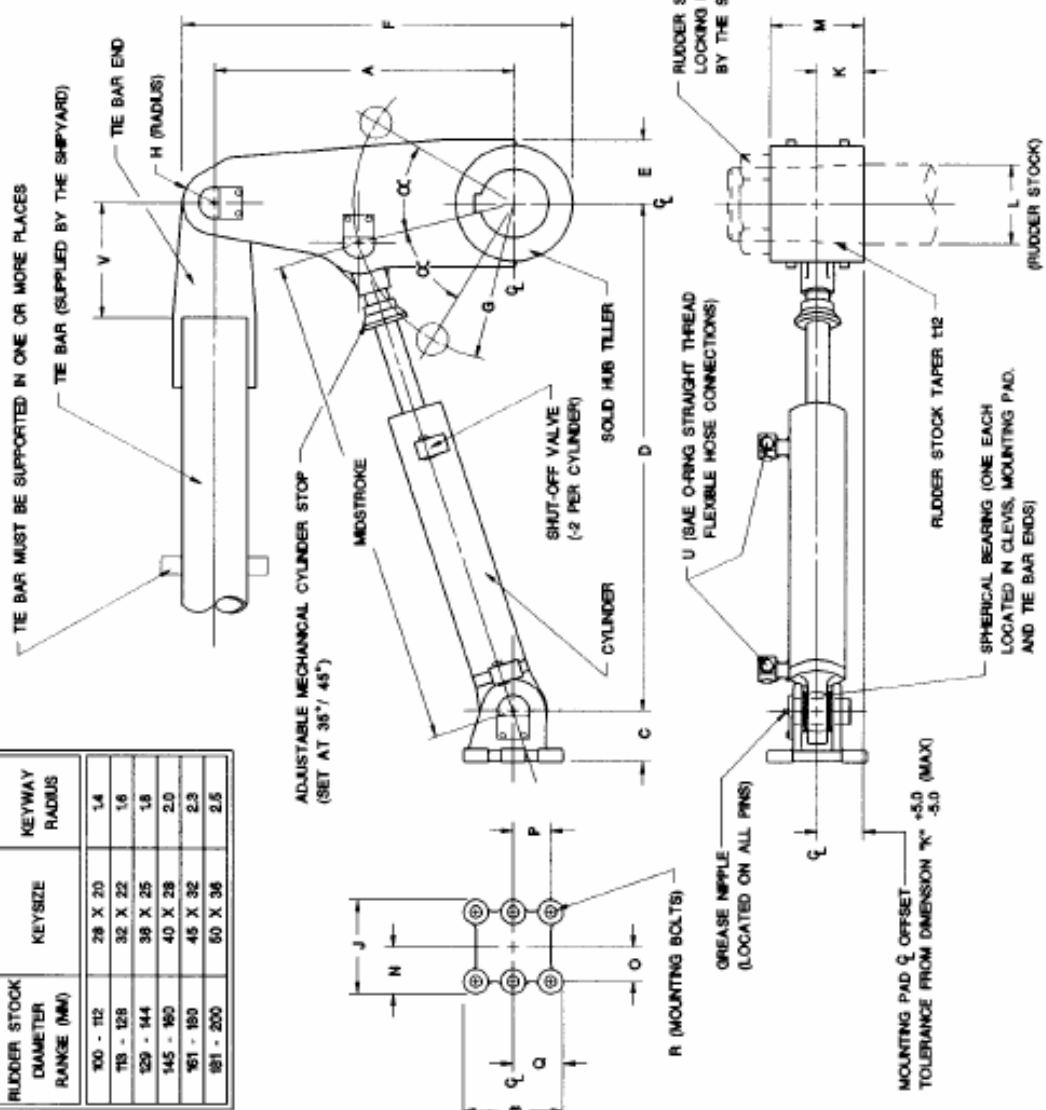


| STEERING GEAR MODEL | CYLINDER MODEL | TORQUE (T.M) | RUDDER ANGLE (2 X OC.) | A | B | C | D | E | F | G | H | J | K | L (MIN) (MAX) | M | N | O | P | Q | R | S (lbs) | T (kg) | U (SAE O-RING) (CLEARANCE) | V (MINIMUM CLEARANCE) |
|---------------------|----------------|--------------|------------------------|-----|-----|-----|------|-----|------|-----|----|-----|-----|---------------|-----|-----|------|------|-----|-----|---------|--------|----------------------------|-----------------------|
| LB2-1.6-35 | L80-262 | 1.6 | 35 | 450 | 165 | 89 | 759 | 125 | 620 | 298 | 50 | 169 | 67 | 100 - 115 | 134 | 84 | 62 | 60.4 | 63 | M20 | 29,900 | 4,497 | 3/4" x 16 | 165 |
| LB2-1.75-45 | L80-468 | 1.75 | 45 | 560 | 165 | 89 | 1018 | 127 | 725 | 280 | 54 | 169 | 67 | 100 - 115 | 134 | 84 | 62 | 60.4 | 63 | M20 | 27,200 | 4,497 | 3/4" x 16 | 165 |
| LB2-2.5-45 | L80-469 | 2.5 | 35 | 620 | 165 | 89 | 1037 | 135 | 764 | 340 | 54 | 169 | 76 | 115 - 130 | 151 | 84 | 62 | 60.4 | 63 | M20 | 27,700 | 4,497 | 3/4" x 16 | 165 |
| LB2-2.8-45 | L100-419 | 2.8 | 45 | 600 | 216 | 111 | 1100 | 121 | 780 | 286 | 70 | 206 | 76 | 115 - 130 | 151 | 103 | 79.5 | 81 | 108 | M24 | 38,500 | 7,020 | 1-1/8" x 12 | 200 |
| LB2-4.0-35 | L100-419 | 4.0 | 35 | 650 | 216 | 111 | 1118 | 143 | 848 | 348 | 70 | 206 | 87 | 130 - 160 | 174 | 103 | 79.5 | 81 | 108 | M24 | 41,600 | 7,020 | 1-1/8" x 12 | 200 |
| LB2-4.4-45 | L100-650 | 4.4 | 45 | 830 | 216 | 111 | 1461 | 143 | 1046 | 444 | 70 | 206 | 87 | 130 - 160 | 174 | 103 | 79.5 | 81 | 108 | M24 | 38,700 | 7,020 | 1-1/8" x 12 | 200 |
| LB2-6.3-35 | L125-424 | 6.3 | 35 | 700 | 267 | 142 | 1309 | 179 | 950 | 552 | 60 | 241 | 102 | 150 - 175 | 203 | 121 | 92 | 102 | 133 | M30 | 65,500 | 10,963 | 1-1/8" x 12 | 270 |
| LB2-7.0-45 | L125-674 | 7.0 | 45 | 850 | 267 | 142 | 1561 | 184 | 1079 | 451 | 60 | 241 | 102 | 150 - 175 | 203 | 121 | 92 | 102 | 133 | M30 | 56,400 | 10,963 | 1-1/8" x 12 | 270 |
| LB2-10-35 | L125-674 | 10.0 | 35 | 900 | 267 | 142 | 1608 | 191 | 1150 | 560 | 60 | 241 | 116 | 175 - 200 | 232 | 121 | 92 | 102 | 133 | M30 | 61,250 | 10,963 | 1-1/8" x 12 | 270 |

| RUDDER STOCK DIAMETER RANGE (MM) | KEYSIZE | KEYWAY RADIUS |
|----------------------------------|---------|---------------|
| 100 - 112 | 28 X 20 | 1.4 |
| 118 - 128 | 32 X 22 | 1.6 |
| 129 - 144 | 36 X 25 | 1.8 |
| 145 - 160 | 40 X 28 | 2.0 |
| 161 - 180 | 45 X 32 | 2.3 |
| 181 - 200 | 50 X 36 | 2.5 |



NOTES

- AS THE STEERING GEAR MUST BE EQUIVALENT IN STRENGTH TO THE UPPER RUDDER STOCK, EACH CYLINDER MOUNTING SEAT STRUCTURE MUST BE CAPABLE OF SUPPORTING A MAXIMUM LOAD OF "S" kgs. THIS LOAD WILL CAUSE THE RUDDER STOCK TO FAIL IN TORSIONAL SHEAR. THE NORMAL LOAD DUE TO WORKING PRESSURE IS "T" kgs.
- IN THE HARDOVER POSITION ONE CYLINDER WILL STOP AGAINST THE PISTON HEAD AND THE OTHER STOPS AGAINST THE ADJUSTABLE MECHANICAL STOP THEREBY PROVIDING A BALANCED TORQUE.
- SYSTEM HYDRAULIC WORKING PRESSURE 10,000 kpa (1450 psi)
- ALL DIMENSIONS ARE IN MILLIMETERS.
- OPPOSITE ARRANGE ON OTHER SIDE OF VESSEL.
- MOUNTING BOLT GRADE: ISO 5.8 OR U.S. GRADE 2 OR BETTER.
- TOLERANCES SHOWN ARE FOR SHIPYARD SEATINGS.
- METRIC TO U.S. CUSTOMARY CONVERSIONS:
26.4mm = 1 inch
1 Tonne Meter = 7233 lb-ft
1 kg = 2.2 lbs

L-MODEL OVERALL DIMENSIONS FOR LB2-1.6-35 THRU LB2-10-35 STEERING

WAGNER
Wagner Engineering Ltd.
135 Riverside Dr.
North Vancouver, BC
Canada V7H 1T6
Tel. (604) 988-1111
www.wagnerengineering.ca Fax (604) 988-0334

DRAWN BY: M.L.B. CHECKED BY: F.J.P.
SCALE: N.T.S.
DATE: MAY, 1994
DRAWING NO. **C-1465**
REV. **A**

| CYLINDER MODEL | MOUNTING PAD Q |
|----------------|----------------|
| L80-262 | 780 |
| L80-406 | 1000.5 |
| L100-419 | 1062.5 |
| L100-650 | 1429 |
| L125-424 | 1170 |
| L125-674 | 1545 |