

"ROPED JACKS"

ROPED, MULTI-PC JACKS, BOTTOM INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220092G01 | 4.00 | 3.984 | .219 | 3.562 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220092G02 | 4.00 | 3.984 | .312 | 3.375 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220092G03 | 4.50 | 4.482 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220092G04 | 4.50 | 4.482 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220092G05 | 4.50 | 4.482 | .460 | 3.580 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220092G06 | 5.00 | 4.982 | .312 | 4.375 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220092G07 | 5.50 | 5.480 | .343 | 4.813 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220092G08 | 6.00 | 5.966 | .360 | 5.280 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220092G09 | 6.00 | 5.966 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220092G10 | 6.50 | 6.466 | .375 | 5.750 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220092G11 | 6.50 | 6.466 | .534 | 5.433 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220092G12 | 7.00 | 6.966 | .625 | 5.750 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |
| 220092G13 | 7.50 | 7.466 | .500 | 6.500 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |
| 220092G14 | 8.00 | 7.966 | .500 | 7.000 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |

ROPED, ONE-PC JACKS, BOTTOM INLET

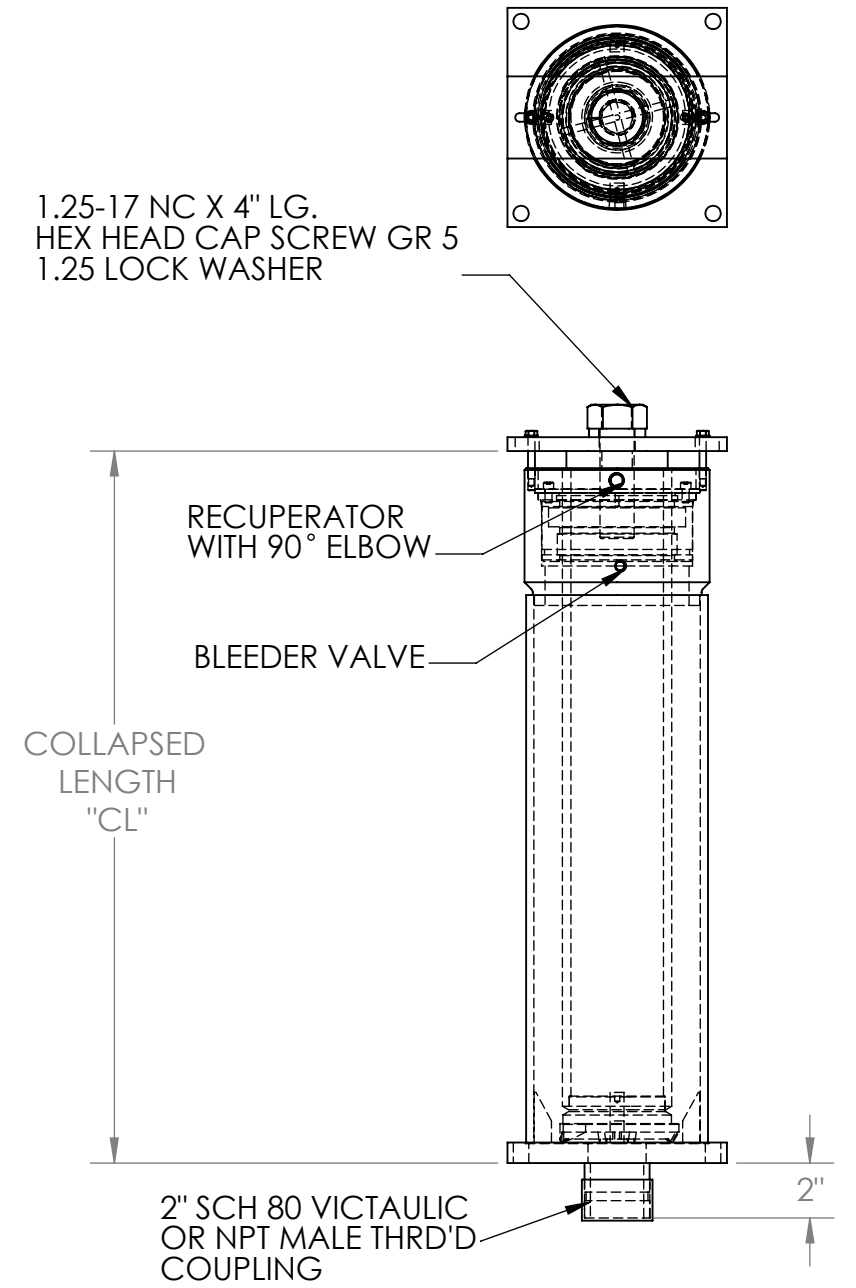
| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220086G01 | 4.00 | 3.984 | .219 | 3.562 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220086G02 | 4.00 | 3.984 | .312 | 3.375 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220086G03 | 4.50 | 4.482 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220086G04 | 4.50 | 4.482 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220086G05 | 4.50 | 4.482 | .460 | 3.580 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220086G06 | 5.00 | 4.982 | .312 | 4.375 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220086G07 | 5.50 | 5.480 | .343 | 4.813 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220086G08 | 6.00 | 5.966 | .360 | 5.280 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220086G09 | 6.00 | 5.966 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220086G10 | 6.50 | 6.466 | .375 | 5.750 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220086G11 | 6.50 | 6.466 | .534 | 5.433 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220086G12 | 7.00 | 6.966 | .625 | 5.750 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |
| 220086G13 | 7.50 | 7.466 | .500 | 6.500 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |
| 220086G14 | 8.00 | 7.966 | .500 | 7.000 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |

FOR 4.00" JACKS:
CL = STROKE + 5.5"

FOR 4.50" - 6.50" JACKS:
CL = STROKE + 6.2"

FOR 7.00" - 8.00" JACKS:
CL = STROKE + 6.3"

| REVISIONS | | | | |
|-----------|------|---|------------|----------|
| ECN | REV. | DESCRIPTION | DATE | APPROVED |
| 2756 | K | ADDED NOTE AND CHANGED CL TO ACCOMMODATE NEW STULE HEADS ON SHEET 1 AND 2 | 1/15/2007 | SLM |
| 2792 | L | ADDED NOTE FOR 7.50" CL AND CHANGED NOTES FOR ROPED AND SEAMLESS JACKS | 4/24/2007 | SLM |
| 3065 | M | CHANGED CLOSED LENGTHS ON ALL HOLELESS AND ROPED JACKS FOR NEW STYLE SLEEVE SEAL KITS | 12/23/2008 | SLM |



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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
FINISH: 125
TOLERANCES:
FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL: ± .060
TWO PLACE DECIMAL: ± .030
THREE PLACE DECIMAL: ± .010

| | |
|----------------------|---------|
| NAME | DATE |
| JR | 6/16/03 |
| DRAWN | |
| CHECKED | |
| ENG APPR. | |
| WARNING: THIRD ANGLE | |
| | |

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. **120096** REV **M**
CUSTOMER: DLM SHEET 1 OF 8

"ROPED JACKS"

ROPED, MULTI-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220102G01 | 4.00 | 3.984 | .219 | 3.562 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220102G02 | 4.00 | 3.984 | .312 | 3.375 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220102G03 | 4.50 | 4.482 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220102G04 | 4.50 | 4.482 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220102G05 | 4.50 | 4.482 | .460 | 3.580 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220102G06 | 5.00 | 4.982 | .312 | 4.375 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220102G07 | 5.50 | 5.480 | .343 | 4.813 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220102G08 | 6.00 | 5.966 | .360 | 5.280 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220102G09 | 6.00 | 5.966 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220102G10 | 6.50 | 6.466 | .375 | 5.750 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220102G11 | 6.50 | 6.466 | .534 | 5.433 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220102G12 | 7.00 | 6.966 | .625 | 5.750 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |
| 220102G13 | 7.50 | 7.466 | .500 | 6.500 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |
| 220102G14 | 8.00 | 7.966 | .500 | 7.000 | 10.75 | 12.19 | 11.5" X 12" | 600 | 8 | 11.00 |

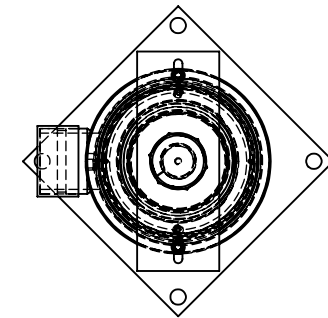
ROPED, ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220101G01 | 4.00 | 3.984 | .219 | 3.562 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220101G02 | 4.00 | 3.984 | .312 | 3.375 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220101G03 | 4.50 | 4.482 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220101G04 | 4.50 | 4.482 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220101G05 | 4.50 | 4.482 | .460 | 3.580 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220101G06 | 5.00 | 4.982 | .312 | 4.375 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220101G07 | 5.50 | 5.480 | .343 | 4.813 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220101G08 | 6.00 | 5.966 | .360 | 5.280 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220101G09 | 6.00 | 5.966 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220101G10 | 6.50 | 6.466 | .375 | 5.750 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220101G11 | 6.50 | 6.466 | .534 | 5.433 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220101G12 | 7.00 | 6.966 | .625 | 5.750 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |
| 220101G13 | 7.50 | 7.466 | .500 | 6.500 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |
| 220101G14 | 8.00 | 7.966 | .500 | 7.000 | 10.75 | N/A | 11.5" X 12" | 600 | 8 | 11.00 |

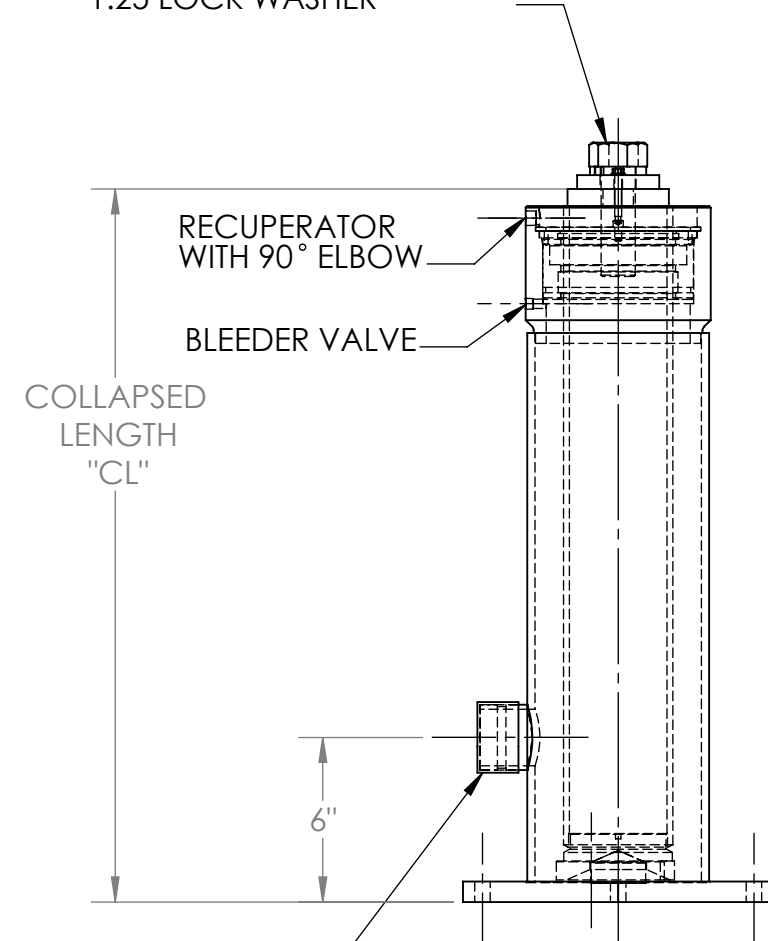
FOR 4.00" JACKS:
 $CL = \text{STROKE} + 5.6"$

FOR 4.50" - 6.50" JACKS:
 $CL = \text{STROKE} + 6.3"$

FOR 7.00" - 8.00" JACKS:
 $CL = \text{STROKE} + 6.4"$



1.25-17 NC X 4 LG.
 HEX HEAD CAP SCREW GR 5
 1.25 LOCK WASHER



2" SCH 80 VICTAULIC
 OR NPT MALE THRD'D
 COUPLING

RECUPERATOR INCLUDES PLASTIC HOSE OF
 LENGTH = COLLAPSED LENGTH + 14".

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 FINISH: 125
 TOLERANCES:
 FRACTIONAL: ± 1/16
 ANGULAR: ± 0° 30'
 ONE PLACE DECIMAL: ± .060
 TWO PLACE DECIMAL: ± .030
 THREE PLACE DECIMAL: ± .010

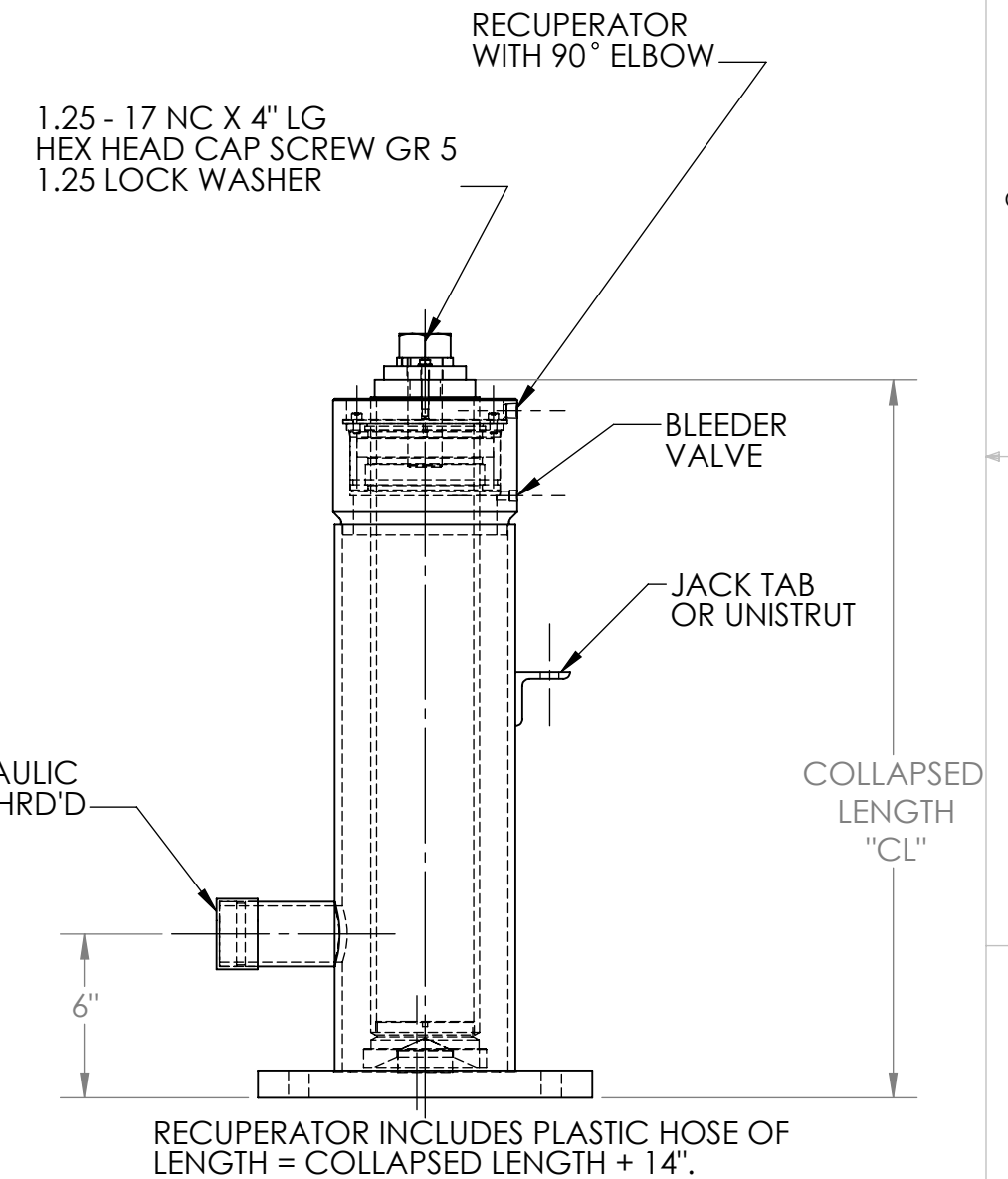
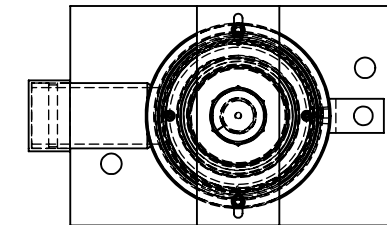
NAME: JR
 DATE: 6/16/03
 DRAWN: []
 CHECKED: []
 ENG APPR: []
 WARNING: THIRD ANGLE

D. L. MARTIN CO.
**ROPED AND HOLELESS
 JACK ORDERING GUIDE**
 DWG. NO. 120096
 CUSTOMER: DLM
 SHEET 2 OF 8

"HOLELESS JACKS"

ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220125G14 | 2.95 | 2.972 | .168 | 2.633 | 4.50 | N/A | 5.75" X 10" | 611 | 12 | 5.25 |
| 220125G12 | 3.50 | 3.484 | .218 | 3.063 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220125G13 | 3.75 | 3.732 | .375 | 3.000 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220125G01 | 4.00 | 3.984 | .219 | 3.562 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220125G02 | 4.00 | 3.984 | .312 | 3.375 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220125G03 | 4.50 | 4.482 | .237 | 4.026 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220125G04 | 4.50 | 4.482 | .337 | 3.826 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220125G05 | 4.50 | 4.482 | .460 | 3.580 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220125G06 | 5.00 | 4.982 | .312 | 4.375 | 8.63 | N/A | 10" X 14.25" | 611 | 10 | 9.00 |
| 220125G07 | 5.50 | 5.480 | .343 | 4.813 | 8.63 | N/A | 10" X 14.25" | 611 | 9 | 9.00 |
| 220125G08 | 6.00 | 5.966 | .360 | 5.280 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |
| 220125G09 | 6.00 | 5.966 | .500 | 5.000 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |
| 220125G10 | 6.50 | 6.466 | .375 | 5.750 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |
| 220125G11 | 6.50 | 6.466 | .534 | 5.433 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |



FOR 2.95" - 4.00" JACKS:
 $CL = \text{STROKE} + 5.8"$

FOR 4.50" - 5.00" JACKS:
 $CL = \text{STROKE} + 6.0"$

FOR 5.50" - 6.50" JACKS:
 $CL = \text{STROKE} + 6.5"$

FOR 7.00" - 8.00" JACKS:
 $CL = \text{STROKE} + 5.6"$

2" SCH 80 VICTAULIC
 OR NPT MALE THRD'D
 COUPLING

6"

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DIMENSIONS ARE IN INCHES
 FINISH: 125
 TOLERANCES:
 FRACTIONAL: ± 1/16
 ANGULAR: ± 0° 30'
 ONE PLACE DECIMAL: ± .060
 TWO PLACE DECIMAL: ± .030
 THREE PLACE DECIMAL: ± .010

| | |
|-----------|---------|
| NAME | DATE |
| JR | 6/16/03 |
| DRAWN | |
| CHECKED | |
| ENG APPR. | |

WARNING: THIRD ANGLE

D. L. MARTIN CO.
**ROPED AND HOLELESS
 JACK ORDERING GUIDE**

DWG. NO. 120096
 CUSTOMER: DLM
 SHEET 3 OF 8

REV M

"HOLELESS - SEAMLESS JACKS"

SEAMLESS PLUNGER, STANDARD CYLINDER, ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220166G01 | 3.50 | 3.453 | .216 | 3.068 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220166G02 | 3.75 | 3.706 | .500 | 2.750 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220166G03 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220166G04 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220166G05 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G06 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G07 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G08 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 10" X 14.25" | 611 | 10 | 9.00 |
| 220166G09 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 10" X 14.25" | 611 | 9 | 9.00 |
| 220166G10 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |
| 220166G11 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |

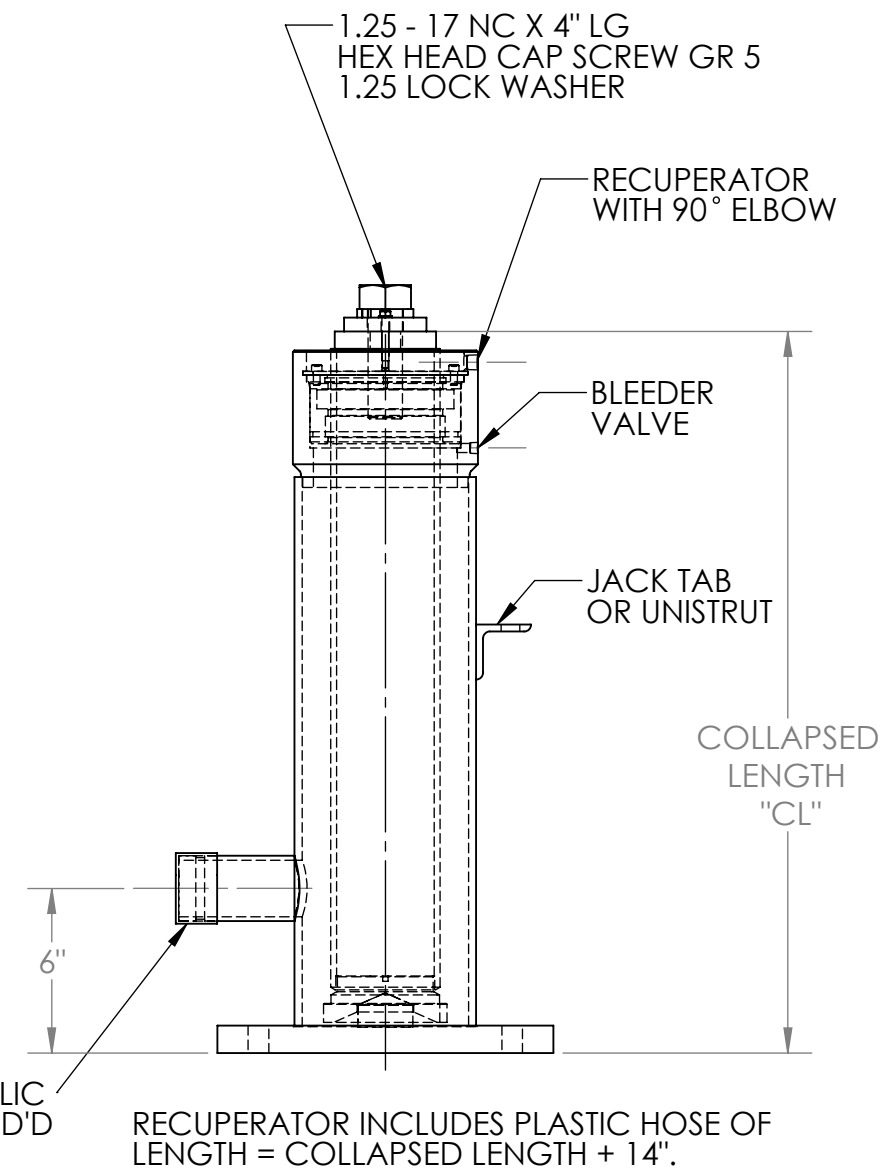
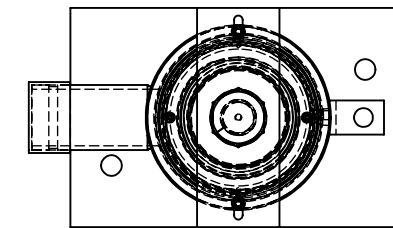
SEAMLESS PLUNGER, SEAMLESS CYLINDER, ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220166G12 | 3.50 | 3.453 | .216 | 3.068 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220166G13 | 3.75 | 3.706 | .500 | 2.750 | 5.63 | N/A | 7" X 11.25" | 611 | 12 | 6.50 |
| 220166G14 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220166G15 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 12.25" | 614 | 12 | 6.75 |
| 220166G16 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G17 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G18 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 12.25" | 614 | 11 | 7.50 |
| 220166G19 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 10" X 14.25" | 611 | 10 | 9.00 |
| 220166G20 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 10" X 14.25" | 611 | 9 | 9.00 |
| 220166G21 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |
| 220166G22 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 10" X 14.25" | 611 | 8 | 9.00 |

FOR 3.50" - 4.00" JACKS:
CL = STROKE + 5.8"

FOR 4.50" - 5.00" JACKS:
CL = STROKE + 6.0"

FOR 5.50" - 6.50" JACKS:
CL = STROKE + 6.5"



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FINISH: 125
TOLERANCES:
FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL: ± .060
TWO PLACE DECIMAL: ± .030
THREE PLACE DECIMAL: ± .010

NAME: JR
DATE: 6/16/03
DRAWN: JR
CHECKED: []
ENG APPR: []
WARNING: THIRD ANGLE

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. 120096
CUSTOMER: DLM
SHEET 4 OF 8

"ROPED - SEAMLESS JACKS"

SEAMLESS PLUNGER, STANDARD CYLINDER, MULTI-PC JACKS, BOTTOM INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220168G01 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220168G02 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220168G03 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G04 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G05 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G06 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220168G07 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220168G08 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220168G09 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220168G10 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220168G11 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220168G12 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |

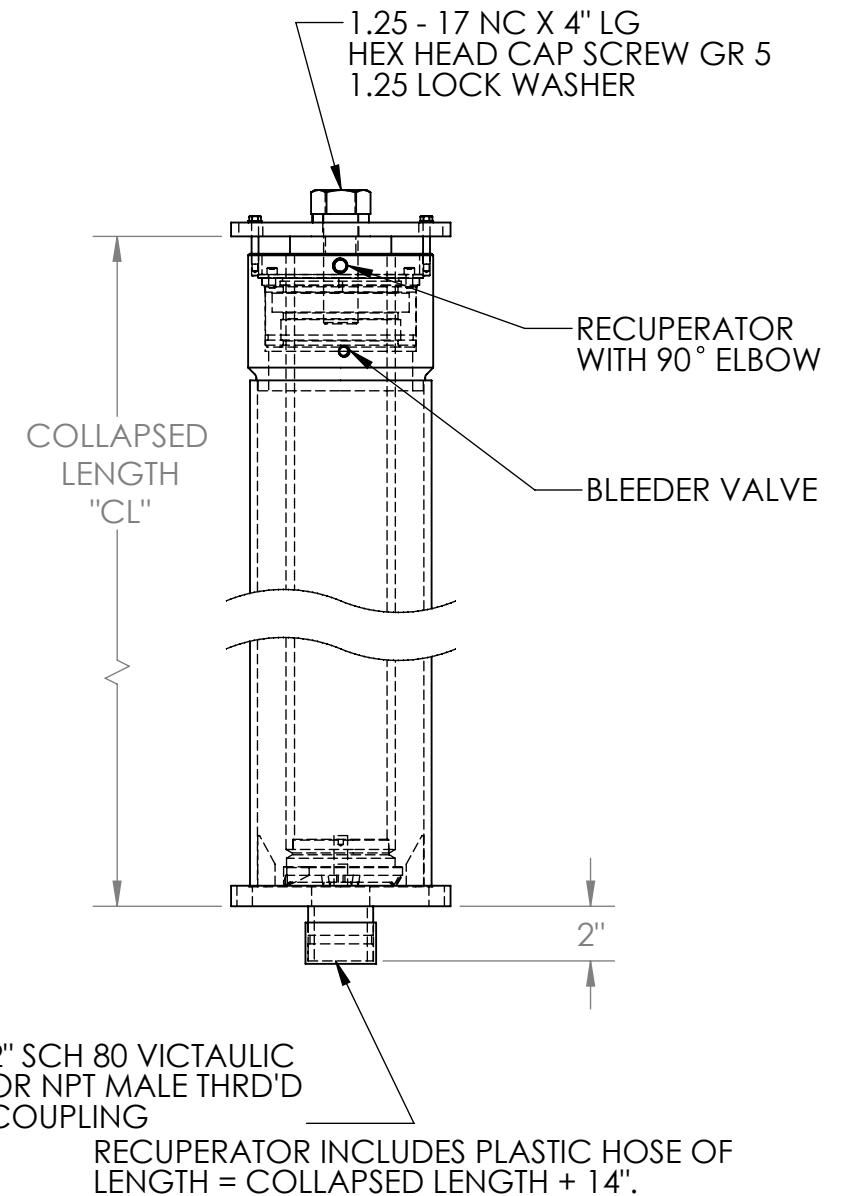
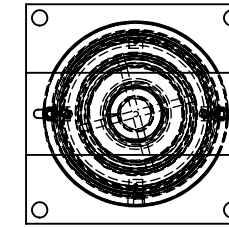
SEAMLESS PLUNGER, SEAMLESS CYLINDER, MULTI-PC JACKS, BOTTOM INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220168G13 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220168G14 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220168G15 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G16 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G17 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220168G18 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220168G19 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220168G20 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220168G21 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220168G22 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220168G23 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220168G24 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |

FOR 4.00" JACKS:
CL = STROKE + 5.6"

FOR 4.50" - 6.50" JACKS:
CL = STROKE + 6.3"

FOR 7.00" - 8.00" JACKS:
CL = STROKE + 6.4"



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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
FINISH: 125
TOLERANCES:
FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL: ± .060
TWO PLACE DECIMAL: ± .030
THREE PLACE DECIMAL: ± .010

NAME: JR
DATE: 6/16/03
DRAWN: JR
CHECKED: []
ENG APPR: []
WARNING: THIRD ANGLE

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. 120096
CUSTOMER: DLM
REV M
SHEET 5 OF 8

"ROPED - SEAMLESS JACKS"

SEAMLESS PLUNGER, STANDARD CYLINDER, ONE-PC JACKS, BOTTOM INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220169G01 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220169G02 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220169G03 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G04 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G05 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G06 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220169G07 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220169G08 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220169G09 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220169G10 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220169G11 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220169G12 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |

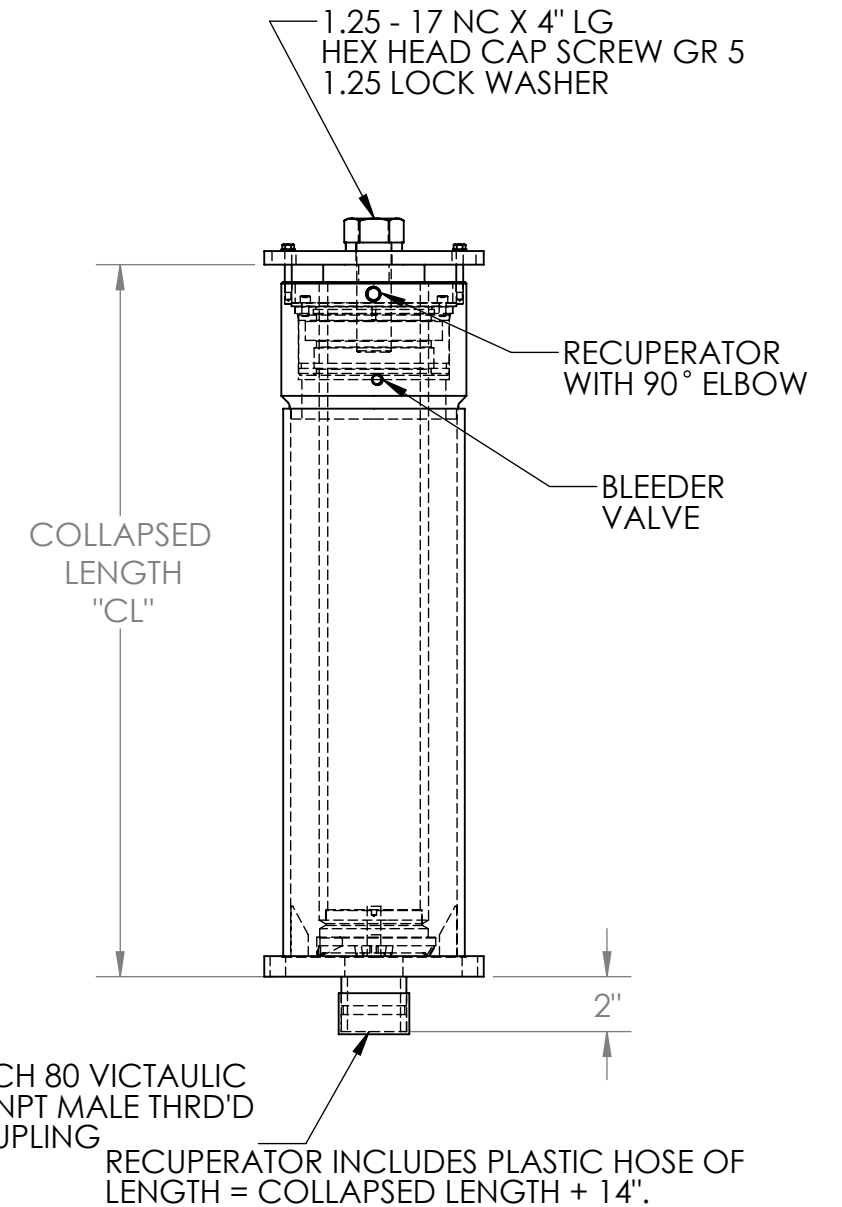
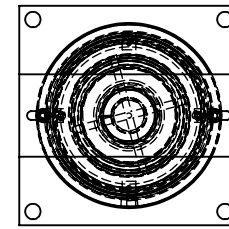
SEAMLESS PLUNGER, SEAMLESS CYLINDER, ONE-PC JACKS, BOTTOM INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220169G01 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220169G02 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220169G03 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G04 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G05 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220169G06 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220169G07 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220169G08 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220169G09 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220169G10 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220169G11 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220169G12 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |

FOR 4.00" JACKS:
CL = STROKE + 5.6"

FOR 4.50" - 6.50" JACKS:
CL = STROKE + 6.3"

FOR 7.00" - 8.00" JACKS:
CL = STROKE + 6.4"



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FINISH: 125
TOLERANCES:
FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL: ± .060
TWO PLACE DECIMAL: ± .030
THREE PLACE DECIMAL: ± .010

| | |
|----------------------|---------|
| NAME | DATE |
| JR | 6/16/03 |
| DRAWN | |
| CHECKED | |
| ENG APPR. | |
| WARNING: THIRD ANGLE | |

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. **120096** REV **M**
CUSTOMER: DLM SHEET 6 OF 8

"ROPED - SEAMLESS JACKS"

SEAMLESS PLUNGER, STANDARD CYLINDER, MULTI-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220170G01 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220170G02 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220170G03 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G04 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G05 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G06 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220170G07 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220170G08 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220170G09 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220170G10 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220170G11 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220170G12 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |

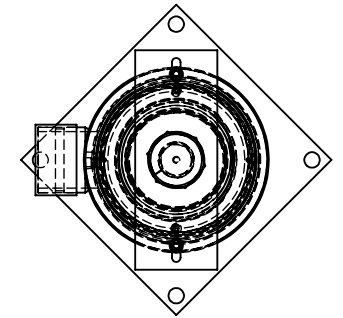
SEAMLESS PLUNGER, SEAMLESS CYLINDER, MULTI-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220170G13 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220170G14 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | 8.00 | 8" X 8" | 581 | 12 | 6.75 |
| 220170G15 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G16 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G17 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | 8.00 | 8" X 8" | 581 | 11 | 7.50 |
| 220170G18 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 10 | 9.00 |
| 220170G19 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 9 | 9.00 |
| 220170G20 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220170G21 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | 10.00 | 9.38" X 10" | 678 | 8 | 9.00 |
| 220170G22 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220170G23 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |
| 220170G24 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | 12.19 | 11.50" X 12" | 600 | 8 | 11.00 |

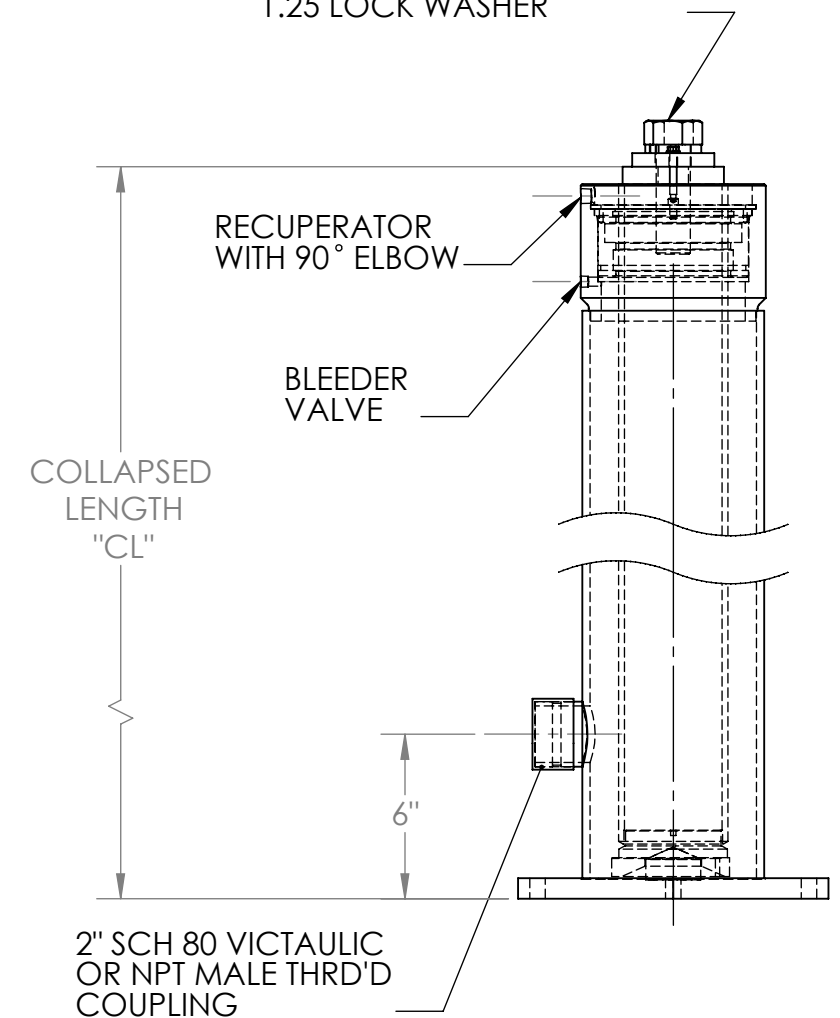
FOR 4.00" JACKS:
CL = STROKE + 5.6"

FOR 4.50" - 6.50" JACKS:
CL = STROKE + 6.3"

FOR 7.00" - 8.00" JACKS:
CL = STROKE + 6.4"



1.25 - 17 NC X 4" LG
HEX HEAD CAP SCREW GR 5
1.25 LOCK WASHER



RECUPERATOR INCLUDES PLASTIC HOSE OF LENGTH = COLLAPSED LENGTH + 14".

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DIMENSIONS ARE IN INCHES
FINISH: 125
TOLERANCES:
FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL: ± .060
TWO PLACE DECIMAL: ± .030
THREE PLACE DECIMAL: ± .010

| | |
|----------------------|---------|
| NAME | JR |
| DATE | 6/16/03 |
| DRAWN | |
| CHECKED | |
| ENG APPR. | |
| WARNING: THIRD ANGLE | |

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. 120096
CUSTOMER: DLM
SHEET 7 OF 8

"ROPED - SEAMLESS JACKS"

SEAMLESS PLUNGER, STANDARD CYLINDER, ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220171G01 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220171G02 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220171G03 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G04 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G05 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G06 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220171G07 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220171G08 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220171G09 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220171G10 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220171G11 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220171G12 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |

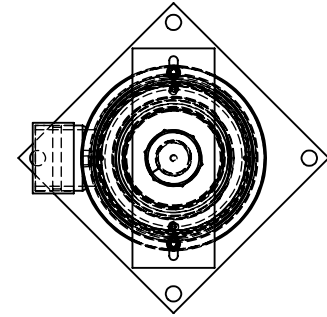
SEAMLESS PLUNGER, SEAMLESS CYLINDER, ONE-PC JACKS, SIDE INLET

| PART NUMBER | NOMINAL PLUNGER O.D. | GROUND PLUNGER O.D. | NOMINAL PLUNGER WALL THICKNESS | PLUNGER I.D. | CYLINDER O.D. | COUPLING O.D. | BASEPLATE DIMENSIONS | MAX WORKING PRESSURE (PSI) | SEAL FRICTION PRESSURE (PSI) | HEAD O.D. |
|-------------|----------------------|---------------------|--------------------------------|--------------|---------------|---------------|----------------------|----------------------------|------------------------------|-----------|
| 220171G13 | 4.00 | 3.953 | .226 | 3.548 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220171G14 | 4.00 | 3.953 | .500 | 3.000 | 6.63 | N/A | 8" X 8" | 614 | 12 | 6.75 |
| 220171G15 | 4.50 | 4.451 | .237 | 4.026 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G16 | 4.50 | 4.451 | .337 | 3.826 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G17 | 4.50 | 4.451 | .500 | 3.500 | 6.63 | N/A | 8" X 8" | 614 | 11 | 7.50 |
| 220171G18 | 5.00 | 4.951 | .500 | 4.000 | 8.63 | N/A | 9.38" X 10" | 611 | 10 | 9.00 |
| 220171G19 | 5.50 | 5.449 | .500 | 4.500 | 8.63 | N/A | 9.38" X 10" | 611 | 9 | 9.00 |
| 220171G20 | 6.00 | 5.940 | .500 | 5.000 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220171G21 | 6.50 | 6.440 | .500 | 5.500 | 8.63 | N/A | 9.38" X 10" | 611 | 8 | 9.00 |
| 220171G22 | 7.00 | 6.940 | .625 | 5.750 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220171G23 | 7.50 | 7.435 | .500 | 6.500 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |
| 220171G24 | 8.00 | 7.935 | .500 | 7.000 | 10.75 | N/A | 11.50" X 12" | 600 | 8 | 11.00 |

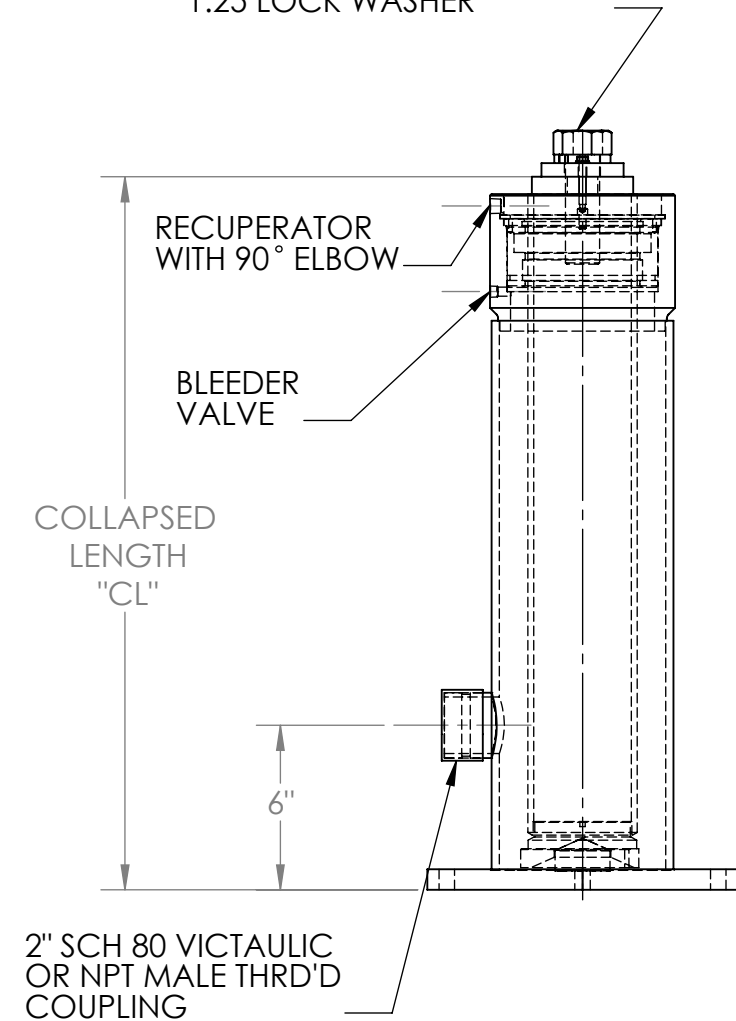
FOR 4.00" JACKS:
CL = STROKE + 5.6"

FOR 4.50" - 6.50" JACKS:
CL = STROKE + 6.3"

FOR 7.00" - 8.00" JACKS:
CL = STROKE + 6.4"



1.25 - 17 NC X 4" LG
HEX HEAD CAP SCREW GR 5
1.25 LOCK WASHER



RECUPERATOR INCLUDES PLASTIC HOSE OF LENGTH = COLLAPSED LENGTH + 14".

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FRACTIONAL: ± 1/16
ANGULAR: ± 0° 30'
ONE PLACE DECIMAL ± .060
TWO PLACE DECIMAL ± .030
THREE PLACE DECIMAL ± .010

| | | | |
|-----------|----|------|---------|
| NAME | JR | DATE | 6/16/03 |
| DRAWN | | | |
| CHECKED | | | |
| ENG APPR. | | | |

WARNING: THIRD ANGLE

D. L. MARTIN CO.
TITLE: **ROPED AND HOLELESS JACK ORDERING GUIDE**
DWG. NO. 120096
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