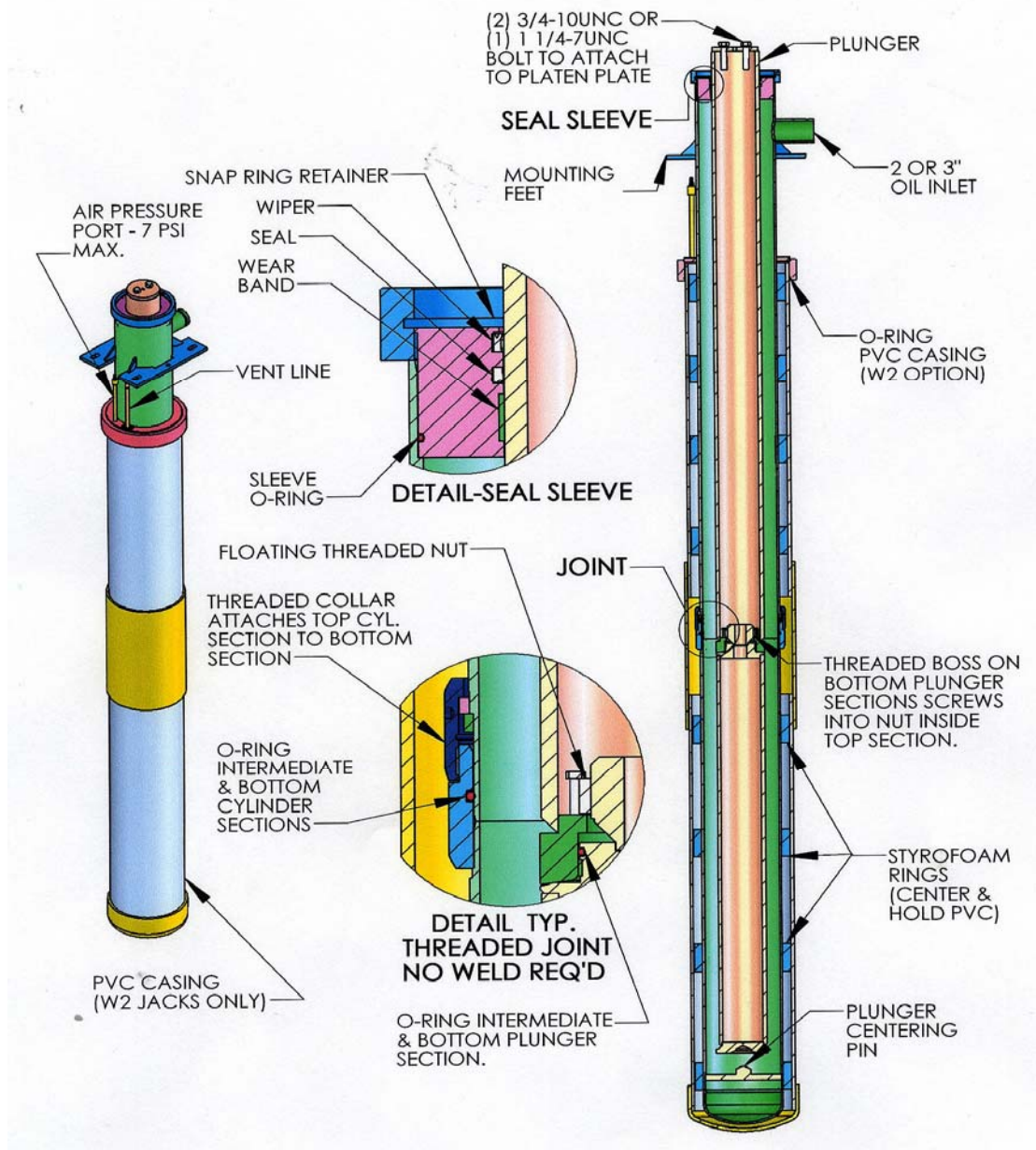


# BOREHOLE OR IN-GROUND JACKS

Borehole jacks are placed in a hole drilled into the ground to a depth roughly equal to the elevator car travel. Mounting feet welded to the cylinder sides are used to mount the jack to the pit floor. The mounting feet and oil inlet are designed not to interfere with each other, allowing freedom to vary their location to meet customer needs for various pit designs and depths. The jacks can be manufactured as a single piece or in multiple sections. A multi-piece jack has cylinder and plunger sections that couple together using threaded couplings and an o-ring seal. This joint design eliminates the time and expense of field welding the sections together. Below are sectional views of a typical two-section jack with an optional sealed PVC casing.



Below is a chart listing available in-ground jack sizes along with some key specifications such as the maximum working pressure for each size. Note that 3.50 and 3.75 plunger sizes are available in only a one-piece configuration. All other jack sizes are available in multiple piece configurations and lengths to fit installation space restrictions.

PLUNGER SIZE - NOMINAL O.D. (in.)	PLUNGER WALL THICKNESS (in.)	CYLINDER O.D.(in.)	MULTI-PIECE CYLINDER COUPLING O.D.(in.)	WARRANTY 2 PVC SIZE(in.)	ACTUAL PVC O.D.(in.)	PVC COUPLING O.D.(in.)	WORKING PRESSURE FOR ONE PIECE(psi)	WORKING PRESSURE FOR MULTI-PIECE(psi)	SEAL FRICTION PRESSURE(psi)
3.50	0.216	5.563	N/A	8	8.625	9.30	677	N/A	14
3.75	0.375	5.563	N/A	8	8.625	9.30	677	N/A	13
4.00	0.219	6.625	8.00	10	10.750	11.50	614	581	12
4.00	0.312	6.625	8.00	10	10.750	11.50	614	581	12
4.50	0.237	6.625	8.00	10	10.750	11.50	614	581	11
4.50	0.337	6.625	8.00	10	10.750	11.50	614	581	11
4.50	0.460	6.625	8.00	10	10.750	11.50	614	581	11
5.00	0.313	8.625	10.00	12	12.750	13.62	536	397	10
5.50	0.344	8.625	10.00	12	12.750	13.62	536	397	9
6.00	0.360	8.625	10.00	12	12.750	13.62	539	397	8
6.00	0.500	8.625	10.00	12	12.750	13.62	539	397	8
6.50	0.375	10.750	12.19	14	14.000	14.88	404	393	8
6.50	0.534	10.750	12.19	14	14.000	14.88	404	393	8
7.00	0.625	10.750	12.19	14	14.000	14.88	404	393	7
8.00	0.500	10.750	12.19	14	14.000	14.88	404	393	7

The D.L. Martin Co. offers two traditional ways to protect the jack with options called Warranty 1 and Warranty 2. Warranty 1 consists of a double wrap of tape applied to the outside of the cylinder. A heat shrink-wrap is applied at the cylinder joints in the field for multi-piece jack units. Warranty 2 jacks have a single wrap of tape on the cylinder which is mounted in a PVC casing with monitoring capabilities. Multi-piece Warranty 2 jacks also receive the heat shrink-wrap in the field but in this case it is applied to the PVC joints.

Recent code changes in many areas require a sealed casing around the jack that can be pressurized to blow out any buildup of oil and water around the jack. D. L. Martin offers a second sealed PVC casing option that meets this requirement. Two pipe fittings are provided at the top of the casing. The jack on page 1 includes this PVC option. A label on the jack barrel explains which fitting to hook up the airline to and which line is a drain to vent any accumulated waste. **Note: PVC can shatter under air pressure resulting in serious injury. Carefully follow instructions on label and do not exceed 8 PSI maximum when blowing out the casing.**

All three warranties guarantee the jacks will be free of oil loss due to corrosion or electrolysis for a period of 20 years after the invoice date. The only part of the unit that is exempt from the warranty is the oil inlet, which is considered to be part of the piping system. Be sure to consult your local elevator codes before you decide which warranty option is right for you. Some codes require that the jack unit be installed with the PVC

casing. Contact D.L. Martin Co. for details on the materials used and added cost for our 20 year warranty jack units.

## **Requesting a Quote/Placing an Order**

Filling out one easy to understand form is all you will need to request a quote and place an order. Begin the quote process by using the “Quote Request/Order Worksheet” provided on the next page. Fill out as much information on your desired jack unit as you can and fax it to D. L. Martin. In most cases, if your quote request is received by 3 p.m. EST you will be faxed a formal quote by the end of the day. If you have any questions while filling out the form don’t hesitate to call.

If you are ready to place an order just provide a completed “Quote Request/Order Worksheet” along with a purchase order number. Once your jack unit has been engineered an approval form will be faxed to you. All of the jack layout dimensions will be provided on the form for you to make sure the jack meets your specifications. Once you have verified the dimensions are correct sign and date the form and fax it back. This form is D. L. Martin’s go-ahead to begin production on your jack unit.



# D. L. MARTIN CO.

25 E. Harbaugh Drive, Mercersburg, Pennsylvania 17236  
Phone (717) 328-2141 / FAX (717) 328-5919

DLM# \_\_\_\_\_

## IN-GROUND JACK QUOTE/ORDER WORKSHEET

### QUOTE INFO:

FORM COMPLETED BY: \_\_\_\_\_ DATE \_\_\_/\_\_\_/\_\_\_

PHONE \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ FAX \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

EXISTING JACK SIZE (If replacement jack order): (plunger dia.) \_\_\_\_\_ X (wall thk.) \_\_\_\_\_

TOTAL LANDING TO LANDING TRAVEL (Future Travel Included): \_\_\_\_\_

# OF SECTIONS: \_\_\_\_\_ or LONGEST LENGTH POSSIBLE TO INSTALL: \_\_\_\_\_

\*CAR WEIGHT: \_\_\_\_\_ CAR CAPACITY: \_\_\_\_\_

20-YEAR WARRANTY OPTIONS (check if desired):

W1 (double wrap tapecoat)

W2 (PVC casing)

ACCESSORIES:  Pit Channels

Spring Buffers (Car Speed \_\_\_\_\_)

(Bottom Runby \_\_\_\_\_)

Stop Sleeve/Ring (Current Travel \_\_\_\_\_)

\*Car weight can be estimated for quoting purposes. However, the customer is responsible for verifying the actual car weight does not exceed the estimate. Failure to make sure the car weight figure is adequate can result in an insufficient jack being purchased for the job.

### ORDER DIMENSION INFO:

(Missing/Incorrect dimensions will delay delivery)

PO# \_\_\_\_\_

TOP RUNBY \_\_\_\_\_ TOTAL UNDETRAVEL \_\_\_\_\_

TOTAL UNDERTRAVEL= BOTTOM RUNBY+ BUFFER STROKE+ TOLERANCE NEEDED

PIT DEPTH \_\_\_\_\_ INLET HEIGHT \_\_\_\_\_

"X"(pit floor to bottom of mounting feet) \_\_\_\_\_

"R"(top of head to top of mounting feet) \_\_\_\_\_

PLAT THICKNESS (platen plate+bolster+platform thickness) \_\_\_\_\_

OIL PORT SIZE: 2" VIC ON 4.50" DIA. PLUNGERS & SMALLER

3" VIC ON 5.00" DIA. PLUNGERS & LARGER

SHIP TO: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BILL TO: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Fax completed form to: 717-328-5919

NOTICE: Failure to provide all requested information could result in delays, once the jack order is placed. A final jack layout approval sheet will be faxed to the person completing this form before the jack goes into production. If the order is for a replacement jack please provide any drawings or documentation, from the original jack, that may be useful.

