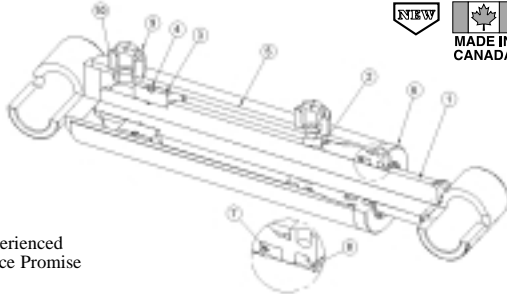


## SHUR-LIFT 4,000 THREADED HEAD UTILITY CYLINDERS



- High quality components insure trouble free operation and extended cylinder life
- High tolerance machining ensures reliable high pressure performance
- Designed for agricultural, industrial, construction and mobile applications
- 4,000 PSI max. continuous pressure
- Designed and manufactured by our own experienced factory team and backed by our Royal Service Promise



Features	Benefits
1. 300 Hrs. Salt Spray Tested Shafting	The shaft is composed of C-1045 steel with a 100,000 PSI yield. The nickel coating and chrome plating guarantees 300 hours of corrosion resistance in a neutral salt spray test per ASTM B117.
2. Shaft Wear Ring	Shaft sizes up to 1-1/4" use a woven fabric reinforced polyester resin wear ring while shafts 1-1/2" and over use a 33% glass filled nylon wear ring. They extend the shaft seal life and increase the side load capacity.
3. Unitized Piston	The 33% glass-filled nylon wear ring is molded to the piston resulting in no metal to metal contact with the cylinder wall. This extends seal life and increases the side load capacity.
4. PTFE Piston Seal	The PTFE piston seal is a 15% glass filled Teflon composite that features excellent high-pressure sealing and anti-wear characteristics.
5. Cylinder Tube	The honed DOM tubing provides better ductility and a higher charpy impact than commonly used C-1026 tube material.
6. Threaded Head	Customized buttress designed threads for high shockloads.
7. Rod seal	The patented Hallite Hythane 605 Rod Seal has a twin lip design for improved sealing, increased seal stability and lower friction.
8. Rod Wiper Seal	The Hallite 520 series Rod Wiper seal has an outside lip for an effective housing seal and low friction scraping lip for shaft cleaning.
9. O-Ring Boss Ports	High-pressure threads designed for superior leak proof sealing.
10. Locknut	The patented Unitortq nut has a deflected thread design which withstands severe vibration and shock load.

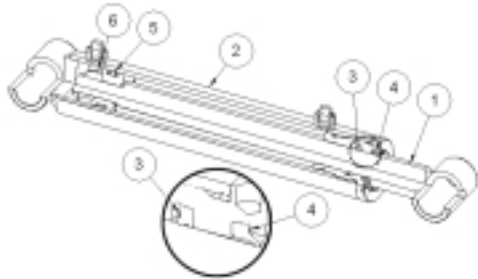
	Stroke	Retracted Pin to Pin	Shaft Size	Wt. (lbs.)	Item	Price
1-1/2" bore, 3/4" dia. pinholes						
#6 ORB ports	4"	12"	1"	7.0	<b>8009040</b>	<b>159.99</b>
Base pineye width: 2"	8"	16"	1"	9.0	<b>8009059</b>	<b>179.99</b>
Rod pineye width: 2"	12"	20"	1"	11.0	<b>8009068</b>	<b>199.99</b>
7,068 lbs. Push @ 4,000 PSI	18"	26"	1"	14.0	<b>8009031</b>	<b>219.99</b>
2" bore, 1" dia. pinholes						
#6 ORB ports	4"	12"	1-1/4"	8.0	<b>8009102</b>	<b>179.99</b>
Base pineye width: 2-3/4"	8"	16"	1-1/4"	11.0	<b>8009120</b>	<b>199.99</b>
Rod pineye width: 2-1/4"	12"	20"	1-1/4"	15.0	<b>8009148</b>	<b>219.99</b>
12,566 lbs. Push @ 4,000 PSI	24"	32"	1-1/4"	25.0	<b>8009166</b>	<b>259.99</b>
2-1/2" bore, 1" dia. pinholes						
#6 ORB ports	8"	16"	1-1/4"	13.0	<b>8009175</b>	<b>209.99</b>
Base pineye width: 3-1/4"	12"	20"	1-1/4"	17.0	<b>8009184</b>	<b>229.99</b>
Rod pineye width: 2-1/4"	24"	32"	1-1/2"	32.0	<b>8009139</b>	<b>279.99</b>
19,635 lbs. Push @ 4,000 PSI						
3" bore, 1" dia. pinholes						
#8 ORB ports	8"	16"	1-1/4"	16.0	<b>8009193</b>	<b>229.99</b>
Base pineye width: 3-3/4"	12"	20"	1-1/4"	20.0	<b>8009200</b>	<b>249.99</b>
Rod pineye width: 2-1/4"	24"	32"	1-3/4"	38.0	<b>8009219</b>	<b>319.99</b>
28,274 lbs. Push @ 4,000 PSI						





# SHUR-LIFT 3,000 THREADED HEAD UTILITY CYLINDERS



- Our PAM hydraulic cylinders conform to ISO 9001 specifications.
- They are designed and manufactured by our own experienced factory team.
- 3,000 PSI max. continuous pressure



Feature	Benefit	
1. Cylinder Shaft	<ul style="list-style-type: none"> <li>• C-1045 100,000 PSI yield</li> <li>• 0.001" hard chrome thickness</li> <li>• 100 hrs. salt spray tested</li> </ul>	<ul style="list-style-type: none"> <li>• 25% better yield strength than the commonly used 75,000 yield</li> <li>• 25% extra chrome extends cylinder shaft life</li> <li>• Will last 2-3 times longer in corrosive conditions (Industry standard: 32-50 hrs.)</li> </ul>
2. Cylinder Tube		
3. Rod Seal		
4. Rod Wiper	<ul style="list-style-type: none"> <li>• Patented Hallite Hythane 605 Rod Seal</li> <li>• Special Hallite 520 series Rod Wiper</li> </ul>	<ul style="list-style-type: none"> <li>• Better ductility and higher charpy impact than commonly used C-1026 tube material</li> <li>• Close to zero slippage on cylinder</li> <li>• Twin lip design (primary and secondary lip sealing)</li> <li>• Lower friction</li> <li>• Improved sealing, increased seal stability</li> <li>• Outside lip for effective housing seal</li> <li>• Pressure relief ribs</li> <li>• Effective scraping lip</li> </ul>
5. Piston Seal		
6. Locknut		

	Stroke	Retracted Pin to Pin	Shaft Size	Wt. (lbs.)	ITEM	PRICE
 <p>1-1/2" bore, 3/4" dia. pinholes. #6 ORB ports. Base pineye width: 2". Rod pineye width: 2". 5,301 lbs. push @ 3,000 PSI.</p>	4"	12"	1"	7.0	<b>1200239</b>	<b>119.99</b>
	6"	14"	1"	8.0	<b>1200240</b>	<b>129.99</b>
	8"	16"	1"	9.0	<b>1200241</b>	<b>139.99</b>
	10"	18"	1"	10.0	<b>1200242</b>	<b>149.99</b>
	12"	20"	1"	11.0	<b>1200243</b>	<b>159.99</b>
	14"	22"	1"	12.0	<b>1200244</b>	<b>169.99</b>
	16"	24"	1"	13.0	<b>1200246</b>	<b>179.99</b>
	18"	26"	1"	14.0	<b>8008498</b>	<b>184.99</b>
	20"	28"	1"	15.0	<b>8008746</b>	<b>189.99</b>
	24"	32"	1"	17.0	<b>8008773</b>	<b>199.99</b>
 <p>2" bore, 1" dia. pinholes. #6 ORB ports. Base pineye width 2-3/4". Rod pineye width 2-1/4". 9,424 lbs. push @ 3,000 PSI.</p>	4"	12"	1-1/4"	8.0	<b>8008808</b>	<b>129.99</b>
	6"	14"	1-1/4"	10.0	<b>8008844</b>	<b>139.99</b>
	8"	16"	1-1/4"	11.0	<b>1204304</b>	<b>149.99</b>
	10"	18"	1-1/4"	13.0	<b>1200131</b>	<b>159.99</b>
	12"	20"	1-1/4"	15.0	<b>1204312</b>	<b>169.99</b>
	14"	22"	1-1/4"	17.0	<b>1204320</b>	<b>179.99</b>
	16"	24"	1-1/4"	19.0	<b>1204437</b>	<b>189.99</b>
	18"	26"	1-1/4"	21.0	<b>1204338</b>	<b>199.99</b>
	20"	28"	1-1/4"	23.0	<b>1204346</b>	<b>209.99</b>
	24"	32"	1-1/4"	25.0	<b>1204353</b>	<b>219.99</b>
	30"	38"	1-1/4"	29.0	<b>1204361</b>	<b>229.99</b>
	32"	40"	1-1/4"	31.0	<b>1200220</b>	<b>239.99</b>
	36"	44"	1-1/4"	33.0	<b>1200221</b>	<b>249.99</b>
	40"	48"	1-1/4"	35.0	<b>1200222</b>	<b>269.99</b>
	48"	56"	1-1/4"	38.0	<b>1204452</b>	<b>299.99</b>



## SHUR-LIFT 3,000 THREADED HEAD UTILITY CYLINDERS

	Stroke	Retracted Pin to Pin	Shaft Size	Wt. (lbs.)	ITEM	PRICE
<b>NEW</b> 2-1/2" bore, 1" dia. pinholes. #6 ORB ports. Base pineye width: 3-1/4". Rod pineye width: 2-1/4". 14,726 lbs. push @ 3,000 PSI.	6"	14"	1-1/4"	12.0	<b>8008853</b>	<b>149.99</b>
	8"	16"	1-1/4"	13.0	<b>1204379</b>	<b>159.99</b>
	10"	18"	1-1/4"	15.0	<b>1200223</b>	<b>169.99</b>
	12"	20"	1-1/4"	17.0	<b>1200132</b>	<b>189.99</b>
	14"	22"	1-1/4"	19.0	<b>1200224</b>	<b>209.99</b>
	16"	24"	1-1/4"	21.0	<b>1200133</b>	<b>219.99</b>
	18"	26"	1-1/4"	23.0	<b>1200225</b>	<b>229.99</b>
	20"	28"	1-1/4"	25.0	<b>1204387</b>	<b>239.99</b>
	24"	32"	1-1/4"	29.0	<b>1204395</b>	<b>249.99</b>
	30"	38"	1-1/2"	33.0	<b>1200196</b>	<b>269.99</b>
	32"	40"	1-1/2"	39.0	<b>1200226</b>	<b>279.99</b>
	36"	44"	1-1/2"	46.0	<b>1200227</b>	<b>299.99</b>
	40"	48"	1-1/2"	50.0	<b>1200228</b>	<b>319.99</b>
	48"	56"	1-1/2"	57.0	<b>1200230</b>	<b>349.99</b>
	8"	16"	1-1/4"	16.0	<b>1204403</b>	<b>169.99</b>
	10"	18"	1-1/4"	20.0	<b>1204429</b>	<b>179.99</b>
	12"	20"	1-1/4"	20.0	<b>1200134</b>	<b>199.99</b>
3" bore, 1" dia. pinholes. #8 ORB ports. Base pineye width: 3-3/4". Rod pineye width: 2-1/4". 21,205 lbs. push @ 3,000 PSI.	14"	22"	1-1/4"	22.0	<b>1200210</b>	<b>219.99</b>
	16"	24"	1-1/4"	21.0	<b>1204510</b>	<b>229.99</b>
	18"	26"	1-1/4"	23.0	<b>1204536</b>	<b>239.99</b>
	20"	28"	1-1/2"	27.0	<b>1200135</b>	<b>249.99</b>
	24"	32"	1-1/2"	29.0	<b>1204593</b>	<b>269.99</b>
	30"	38"	1-1/2"	44.0	<b>1200136</b>	<b>299.99</b>
	32"	40"	1-1/2"	39.0	<b>1204734</b>	<b>309.99</b>
	36"	44"	1-3/4"	56.0	<b>1204742</b>	<b>339.99</b>
	40"	48"	1-3/4"	57.0	<b>1204759</b>	<b>369.99</b>
	48"	56"	1-3/4"	77.0	<b>1200212</b>	<b>399.99</b>
3-1/2" bore, 1" dia. pinholes. #8 ORB ports. Base pineye width: 4-1/4". Rod pineye width: 2-1/4". 28,863 lbs. push @ 3,000 PSI.	16"	24"	1-3/4"	37.0	<b>1200205</b>	<b>249.99</b>
	18"	26"	1-3/4"	40.0	<b>1200206</b>	<b>259.99</b>
	20"	28"	1-3/4"	42.0	<b>1200207</b>	<b>269.99</b>
	24"	32"	1-3/4"	48.0	<b>1200213</b>	<b>289.99</b>
	36"	44"	2"	66.0	<b>1200208</b>	<b>369.99</b>
	48"	56"	2"	83.0	<b>1200209</b>	<b>419.99</b>
4" bore, 1-1/4" dia. pinholes. #8 ORB ports. Base pineye width: 4-3/4". Rod pineye width: 2-3/4". 37,699 lbs. push @ 3,000 PSI.	8"	17"	1-1/2"	32.0	<b>1200137</b>	<b>219.99</b>
	10"	19"	1-1/2"	34.0	<b>1200231</b>	<b>239.99</b>
	12"	21"	1-3/4"	37.0	<b>1200232</b>	<b>259.99</b>
	14"	23"	1-3/4"	40.0	<b>1200139</b>	<b>279.99</b>
	18"	27"	1-3/4"	50.0	<b>1204619</b>	<b>309.99</b>
	20"	29"	1-3/4"	54.0	<b>1200233</b>	<b>339.99</b>
	24"	33"	1-3/4"	60.0	<b>1204635</b>	<b>369.99</b>
	30"	39"	2"	80.0	<b>1200140</b>	<b>399.99</b>
	32"	41"	2"	84.0	<b>1200234</b>	<b>429.99</b>
	36"	45"	2-1/4"	101.0	<b>1200235</b>	<b>479.99</b>
	40"	49"	2-1/4"	95.0	<b>1200236</b>	<b>499.99</b>
	48"	57"	2-1/4"	120.0	<b>1200142</b>	<b>529.99</b>
5" bore, 1-1/4" dia. pinholes #8 ORB ports. Base pineye width: 5-3/4". Rod pineye width: 2-3/4". 58,904 lbs. push @ 3,000 PSI.	24"	33"	2"	74.0	<b>1200238</b>	<b>449.99</b>
	48"	57"	2-1/2"	159.0	<b>1204700</b>	<b>739.99</b>

NOTE: Retracted length is measured center of pinhole to center of pinhole.





## SHUR-LIFT 3,000 THREADED HEAD PLAIN END CYLINDERS

These cylinders are offered without ends to enable you to adapt them for use in special applications when other mounts are needed. Choose one of our cylinder ends or use your own. Internal construction as on pg. 2.

	Stroke	Retracted Length*	Shaft Size	Wt. (lbs.)	ITEM	PRICE
2" bore.	8"	14-1/2"	1-1/4"	10.0	<b>1200143</b>	<b>139.99</b>
#6 ORB port size.	12"	18-1/2"	1-1/4"	14.0	<b>1200144</b>	<b>149.99</b>
Outside tube dia. 2-3/8".	20"	24-1/2"	1-1/4"	22.0	<b>1200148</b>	<b>189.99</b>
9,424 lbs. push @ 3,000 PSI.						
3" bore.	8"	14-1/2"	1-1/4"	15.0	<b>1200151</b>	<b>159.99</b>
#8 ORB port size.	14"	20-1/2"	1-1/4"	20.0	<b>1200152</b>	<b>199.99</b>
Outside tube dia. 3-3/8".	20"	26-1/2"	1-1/2"	23.0	<b>1200154</b>	<b>219.99</b>
21,205 lbs. push @ 3,000 PSI.	30"	36-1/2"	1-1/2"	36.0	<b>1200155</b>	<b>269.99</b>

\* Retracted length is measured from the end of the shaft to the base of the cylinder tube.

Cylinder breathers available on pg. 38.

## CYLINDER ENDS

### (A) CROSS TUBE

Drilled for 3/16" drive-in grease nipple.

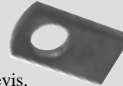
Dimensions	Wt. (lbs.)	ITEM	PRICE
3/4" I.D. x 2" L	1.0	<b>1250166</b>	<b>6.99</b>
1" I.D. x 2-1/4" L	1.0	<b>1250167</b>	<b>6.49</b>
1" I.D. x 2-3/4" L	1.0	<b>1250168</b>	<b>6.99</b>
1" I.D. x 3-1/4" L	1.5	<b>1250169</b>	<b>7.49</b>
1" I.D. x 3-3/4" L	1.5	<b>1250170</b>	<b>7.99</b>
1" I.D. x 4-1/4" L	2.0	<b>1250171</b>	<b>8.49</b>
1-1/4" I.D. * x 2-3/4" L	2.0	<b>1250172</b>	<b>11.99</b>
1-1/4" I.D. * x 4-3/4" L	2.0	<b>1250173</b>	<b>11.99</b>
1-1/4" I.D. * x 5-3/4" L	3.0	<b>1250174</b>	<b>15.99</b>

\* Heavy wall

A



B



### (B) Male Tang

Use two to make a base end clevis.

Dimensions	Wt. (lbs.)	ITEM	PRICE
1" I.D. x 3/8" thick	0.5	<b>1250175</b>	<b>7.49</b>
1" I.D. x 1/2" thick	0.7	<b>1250176</b>	<b>7.99</b>
1" I.D. x 3/4" thick	1.1	<b>1250177</b>	<b>9.99</b>
1" I.D. x 1" thick	1.4	<b>1250178</b>	<b>9.99</b>

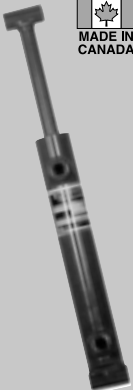
**GREASE NIPPLES** – 3/16" drive in style. For utility cylinder crosstube mounting ends.

**1253327** – 2 per pkg. .... **2** /pkg.

## TECH TIPS

### Can hydraulic cylinders be used as air cylinders?

Our hydraulic cylinders are not designed to be used as air cylinders. The lack of lubrication within the cylinder can cause the seals to heat up and become damaged and moisture carried by the air can cause internal components to rust.



## SHUR-LIFT 2500 SNAP RING UTILITY CYLINDERS

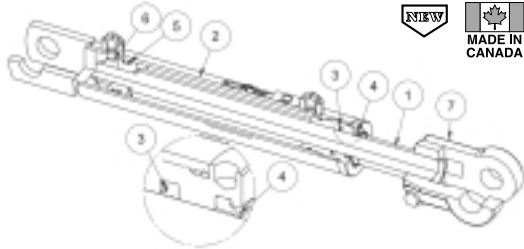
- Hard pre-chromed piston rods for corrosion resistance
- Honed D.O.M. tubing for prolonged seal life and smooth operation
- All cylinders are pressure tested for weld and seal integrity
- Temperature range: -40 to 121°C (-40 to 250°F)
- Our precision cylinders meet or exceed C.S.A. spec. #Z299.2, Ford Spec. Q101, and military spec. #MIL-1-45208 and #DND1016 ensuring maximum quality
- 2,500 PSI max. continuous pressure

	Stroke	Retracted Pin to Pin	Shaft Size	Wt. (lbs.)	ITEM	PRICE
1" bore, 1/2" dia. pinholes.						
1/8" NPT ports.	4"	12"	5/8"	2.7	<b>1200066</b>	<b>109.99</b>
Base pineye width: 1-1/2".	6"	14"	5/8"	3.5	<b>1200067</b>	<b>114.99</b>
Rod pineye width: 1-1/2".	8"	16"	5/8"	4.0	<b>1200068</b>	<b>119.99</b>
1,962 lbs. push @ 2,500 PSI.						

NOTE: Retracted length is measured center of pinhole to center of pinhole.

## SHUR-LIFT 3000 THREADED HEAD IMPLEMENT CYLINDERS

- Designed for agriculture, industry, construction and mobile applications
- Can be used as single or double acting
- Higher pressure, more power
- 3,000 PSI max. continuous pressure

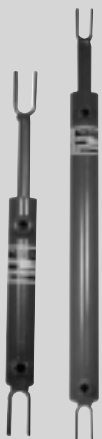


	Feature	Benefit
1. Cylinder Shaft	<ul style="list-style-type: none"> <li>• C-1045 100,000 PSI yield</li> <li>• 0.001" hard chrome thickness</li> <li>• 100 hrs. salt spray tested</li> </ul>	<ul style="list-style-type: none"> <li>• 25% better yield strength than the commonly used 75,000 yield</li> <li>• 25% extra chrome extends cylinder shaft life</li> <li>• Will last 2-3 times longer in corrosive conditions (Industry standard: 32-50 hrs.)</li> </ul>
2. Cylinder Tube	<ul style="list-style-type: none"> <li>• Manufactured to ST 52.3 specifications</li> <li>• Honed DOM tube up to <math>\sqrt{12}</math> RMS finish</li> </ul>	<ul style="list-style-type: none"> <li>• Better ductility and higher charpy impact than commonly used C-1026 tube material</li> <li>• Close to zero slippage on cylinder</li> </ul>
3. Rod Seal	<ul style="list-style-type: none"> <li>• Patented Hallite Hythane 605 Rod Seal</li> </ul>	<ul style="list-style-type: none"> <li>• Twin lip design (primary and secondary lip sealing)</li> <li>• Lower friction</li> <li>• Improved sealing, increased seal stability</li> </ul>
4. Rod Wiper	<ul style="list-style-type: none"> <li>• Special Hallite 520 series Rod Wiper</li> </ul>	<ul style="list-style-type: none"> <li>• Outside lip for effective housing seal</li> <li>• Pressure relief ribs</li> <li>• Effective scraping lip</li> </ul>
5. Piston Seal	<ul style="list-style-type: none"> <li>• Polyurethane "O" ring 90 durometer</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent tear and abrasion resistance</li> <li>• High modulus of elasticity</li> <li>• Reduces "O" ring extrusion and nibbling</li> </ul>
6. Locknut	<ul style="list-style-type: none"> <li>• Patented Unitorq</li> </ul>	<ul style="list-style-type: none"> <li>• Grade 8 all metal, one piece locknut</li> <li>• Withstands severe vibration and shock load</li> <li>• Scientifically deflected thread for locking action</li> <li>• Fully reusable</li> </ul>
7. Rod Clevis End	<ul style="list-style-type: none"> <li>• Manufactured from ductile iron 65-45-12</li> <li>• Internal threading</li> </ul>	<ul style="list-style-type: none"> <li>• Higher yield strength than gray iron</li> <li>• Allows some adjustment to overall cylinder length</li> </ul>

	Stroke	Retracted Length	Wt. (lbs.)	ITEM	PRICE
1-1/2" bore, 1/2" pinholes.	4"	14-1/4"	7.0	<b>1200255</b>	<b>129.99</b>
#6 ORB ports.	6"	16-1/4"	8.0	<b>1200256</b>	<b>139.99</b>
1" rod dia.	8"	18-1/4"	9.0	<b>1200257</b>	<b>149.99</b>
2" bore, 1" pinholes.	8"	20-1/4"	17.0	<b>1200263</b>	<b>159.99</b>
#6 ORB ports.	10"	20-1/4"	18.0	<b>1200264</b>	<b>169.99</b>
1-1/4" rod dia.	12"	22-1/4"	20.0	<b>1200265</b>	<b>179.99</b>
2-1/2" bore, 1" pinholes.	8"	20-1/4"	19.0	<b>1200271</b>	<b>169.99</b>
#6 ORB ports.	10"	20-1/4"	21.0	<b>1200272</b>	<b>179.99</b>
1-1/4" rod dia.	12"	22-1/4"	23.0	<b>1200273</b>	<b>199.99</b>
3" bore, 1" pinholes.	8"	20-1/4"	21.0	<b>1200280</b>	<b>179.99</b>
#8 ORB ports.	10"	20-1/4"	23.0	<b>1200281</b>	<b>189.99</b>
1-1/4" rod dia.	12"	22-1/4"	26.0	<b>1200282</b>	<b>209.99</b>

Cylinder breathers available on pg. 38  
ORB to NPT adapters available on pg. 33





## SHUR-LIFT 2500 SNAP RING IMPLEMENT CYLINDERS



- Designed for agriculture, industry, construction and mobile applications
- Hard prechromed piston rods for corrosion resistance
- Honed D.O.M. tubing for prolonged seal life and smooth operation
- Built to S.A.E. specifications with 2,500 PSI max. continuous pressure
- Can be used as double or single acting
- Temperature range: -40 to 121°C (-40 to 250°F)

Cylinder breathers available on pg. 38. ORB to NPT adapters available on pg. 33

	Stroke	Retracted Length	Wt. (lbs.)	ITEM	PRICE
1" bore, 1/2" pinholes. 1/8" NPT ports, 5/8" rod dia.	4"	14-1/4"	3.2	<b>1200071</b>	<b>109.99</b>
	6"	16-1/4"	3.8	<b>1200072</b>	<b>114.99</b>
	4"	14-1/4"	7.0	<b>1205293</b>	<b>119.99</b>
	6"	16-1/4"	8.0	<b>1205301</b>	<b>124.99</b>
	8"	18-1/4"	9.0	<b>1205319</b>	<b>129.99</b>
1-1/2" bore, 1/2" pinholes. 1/4" NPT ports, 1" rod dia.	10"	20-1/4"	10.0	<b>1205327</b>	<b>134.99</b>
	12"	22-1/4"	11.0	<b>1205368</b>	<b>149.99</b>
	14"	24-1/4"	12.0	<b>1205376</b>	<b>154.99</b>
	16"	26-1/4"	13.0	<b>1205384</b>	<b>159.99</b>
2" bore, 1" pinholes. 1/4" NPT ports. 1-1/4" rod dia.	8"	20-1/4"	17.0	<b>1201052</b>	<b>129.99</b>
	10"	20-1/4"	18.0	<b>1201060</b>	<b>139.99</b>
	12"	22-1/4"	20.0	<b>1201078</b>	<b>154.99</b>
	14"	24-1/4"	22.0	<b>1201086</b>	<b>169.99</b>
	16"	26-1/4"	23.0	<b>1201094</b>	<b>179.99</b>
	18"	28-1/4"	26.0	<b>1204882</b>	<b>189.99</b>
	20"	30-1/4"	28.0	<b>1204890</b>	<b>199.99</b>
	24"	34-1/4"	30.0	<b>1204908</b>	<b>209.99</b>
2-1/2" bore, 1" pinholes. 3/8" NPT ports. 1-1/4" rod dia.	8"	20-1/4"	19.0	<b>1201110</b>	<b>139.99</b>
	10"	20-1/4"	21.0	<b>1201128</b>	<b>149.99</b>
	12"	22-1/4"	23.0	<b>1201136</b>	<b>169.99</b>
	14"	24-1/4"	25.0	<b>1201144</b>	<b>199.99</b>
	16"	26-1/4"	27.0	<b>1201151</b>	<b>204.99</b>
	18"	28-1/4"	29.0	<b>1204916</b>	<b>214.99</b>
	20"	30-1/4"	31.0	<b>1204924</b>	<b>224.99</b>
	24"	34-1/4"	35.0	<b>1204932</b>	<b>239.99</b>
3" bore, 1" pinholes. 1/2" NPT ports. 1-1/4" rod. dia.*	8"	20-1/4"	21.0	<b>1201177</b>	<b>149.99</b>
	10"	20-1/4"	23.0	<b>1201185</b>	<b>169.99</b>
	12"	22-1/4"	26.0	<b>1201193</b>	<b>199.99</b>
	14"	24-1/4"	27.0	<b>1201201</b>	<b>209.99</b>
	16"	26-1/4"	29.0	<b>1201219</b>	<b>219.99</b>
	18"	28-1/4"	31.0	<b>1204940</b>	<b>229.99</b>
	20"	30-1/4"	33.0	<b>1204957</b>	<b>244.99</b>
	24"	34-1/4"	38.0	<b>1204965*</b>	<b>269.99</b>
* 24" stroke cylinder has 1-1/2" rod dia.	8"	20-1/4"	26.0	<b>1201235</b>	<b>164.99</b>
	10"	20-1/4"	28.0	<b>1201243</b>	<b>179.99</b>
	12"	22-1/4"	30.0	<b>1201250</b>	<b>199.99</b>
	14"	24-1/4"	32.0	<b>1201268</b>	<b>219.99</b>
	16"	26-1/4"	35.0	<b>1201276</b>	<b>229.99</b>
3-1/2" bore, 1" pinholes. 1/2" NPT ports. 1-1/4" rod dia.	8"	20-1/4"	32.0	<b>1201292</b>	<b>209.99</b>
	10"	20-1/4"	34.0	<b>1201300</b>	<b>249.99</b>
	12"	22-1/4"	38.0	<b>1201318</b>	<b>269.99</b>
	16"	26-1/4"	43.0	<b>1201334</b>	<b>289.99</b>
	18"	28-1/4"	45.0	<b>1200251</b>	<b>299.99</b>
† 18", 20" and 24" stroke cylinders have a 1-3/4" rod dia.	20"	30-1/4"	49.0	<b>1200253</b>	<b>309.99</b>
	24"	34-1/4"	55.0	<b>1200254</b>	<b>319.99</b>



### TECH TIPS

#### Can a double acting cylinder be used in a single acting application?

By installing a breather plug in one port to prevent air born contaminants from entering the cylinder our double acting cylinders can be converted to single acting.

# PAL Hydraulics

## CUSTOM BUILD CYLINDER PROGRAM

To place an order, contact:

- The factory directly at 1-204-667-4630, ext. 368 or fax at 1-204-668-4530.
- or National Call Centre at 1-800-665-8685.
- or your nearest store.

## DELIVERY IN 10 WORKING DAYS

FOR A MAXIMUM ORDER OF 5 PIECES

Please fill out all blanks and dimensions applicable, hole sizes and location, thread size, etc. Use any combination of rod ends and base end mounts. Price and delivery date will be provided upon request.

ORDER  
DATE:

CONFIRMATION  
DATE:

STORE LOCATION: \_\_\_\_\_ TEAM MEMBER: \_\_\_\_\_  
(THIS INFORMATION REQUIRED WHEN ORDERING THROUGH OUR STORES)

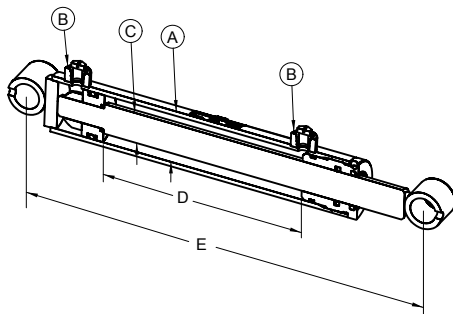
### 1) OPERATION INFORMATION

APPLICATION: \_\_\_\_\_  
\_\_\_\_\_  
FLOW IN GPM: \_\_\_\_\_  
FLUID MEDIUM: \_\_\_\_\_  
WORKING PRESSURE: \_\_\_\_\_

### CUSTOMER INFORMATION

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY, PROV., P.C.: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
FAX: \_\_\_\_\_  
E-MAIL: \_\_\_\_\_

### 2) 3000 PSI THREADED HEAD CYLINDERS



D. Stroke - full length rod  
will travel (48" max.)

E. Distance pin to pin retracted

Order Quantity (Max. 5 pieces)

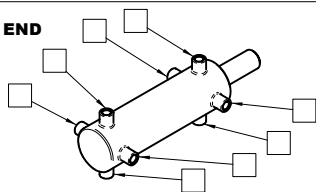
Paint is Red Oxide Primer Only

A. CYLINDER BORE	B. PORT SIZE	C. SHAFT DIAMETER
<input type="checkbox"/> 1.50"	#6 ORB	<input type="checkbox"/> 1" (24" stroke max.)
<input type="checkbox"/> 2.00"	#6 ORB	<input type="checkbox"/> 1-1/4"
<input type="checkbox"/> 2.50"	#6 ORB	<input type="checkbox"/> 1-1/4" <input type="checkbox"/> 1-1/2"
<input type="checkbox"/> 3.00"	#8 ORB	<input type="checkbox"/> 1-1/4" <input type="checkbox"/> 1-1/2" <input type="checkbox"/> 1-3/4"
<input type="checkbox"/> 4.00"	#8 ORB	<input type="checkbox"/> 1-3/4" (24" stroke max.) <input type="checkbox"/> 2" <input type="checkbox"/> 2-1/4"
<input type="checkbox"/> 5.00"	#8 ORB	<input type="checkbox"/> 2" (24" stroke max.) <input type="checkbox"/> 2-1/2"
<input type="checkbox"/> 6.00"	#8 ORB	<input type="checkbox"/> 2-1/2" (24" stroke max.)

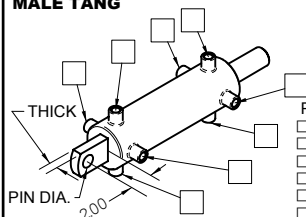
### 3) BASE END AND PORT ORIENTATION

- SELECT THE PORT ORIENTATION WITH THE BASE END THAT IS REQUIRED.

#### NO BASE END

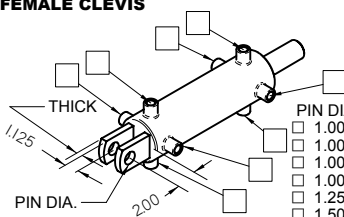


#### MALE TANG



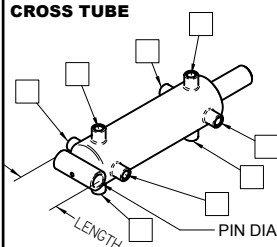
PIN DIA. THICK  
☐ 1.00" X .375"  
☐ 1.00" X .500"  
☐ 1.00" X .750"  
☐ 1.00" X 1.00"  
☐ 1.25" X 1.00"  
☐ 1.50" X 1.00"

#### FEMALE CLEVIS



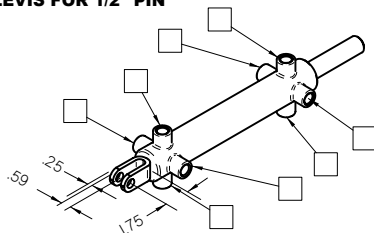
PIN DIA. THICK  
☐ 1.00" X .375"  
☐ 1.00" X .500"  
☐ 1.00" X .750"  
☐ 1.00" X 1.00"  
☐ 1.25" X 1.00"  
☐ 1.50" X 1.00"

#### CROSS TUBE



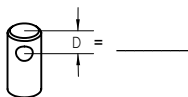
PIN DIA. LENGTH  
☐ .75" X 2.00"  
☐ 1.00" X 2.75"  
☐ 1.00" X 3.25"  
☐ 1.00" X 3.75"  
☐ 1.00" X 4.25"  
☐ 1.25" X 4.75"  
☐ 1.25" X 5.75"  
☐ 1.25" X 7.00"  
☐ 1.50" X 7.00"

#### U-CLEVIS FOR 1/2" PIN



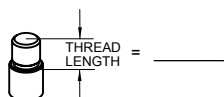
### 4) SHAFT END ☐ NO END

#### DRILLED HOLE



HOLE DIAMETER: \_\_\_\_\_ in.

#### THREADED



☐ .875"-14 UNF ☐ 1.25"-12 UNF  
☐ 1.00"-14 UNS ☐ 1.50"-12 UNF

#### U-CLEVIS

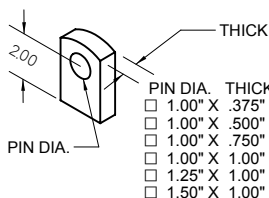
##### SMALL

☐ .50" PIN DIA.

##### LARGE

☐ 1.25" PIN DIA.  
☐ 1.50" PIN DIA.

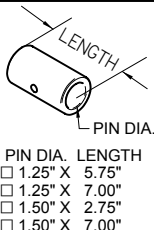
#### MALE TANG



PIN DIA. THICK  
☐ 1.00" X .375"  
☐ 1.00" X .500"  
☐ 1.00" X .750"  
☐ 1.00" X 1.00"  
☐ 1.25" X 1.00"  
☐ 1.50" X 1.00"

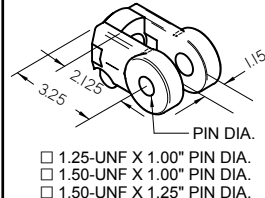
#### CROSS TUBE

PIN DIA. LENGTH  
☐ .75" X 2.00"  
☐ 1.00" X 2.25"  
☐ 1.00" X 2.75"  
☐ 1.00" X 3.25"  
☐ 1.00" X 3.75"  
☐ 1.00" X 4.25"  
☐ 1.25" X 2.25"  
☐ 1.25" X 2.75"  
☐ 1.25" X 4.75"



PIN DIA. LENGTH  
☐ 1.25" X 5.75"  
☐ 1.25" X 7.00"  
☐ 1.50" X 2.75"  
☐ 1.50" X 7.00"

#### CAST CLEVIS



☐ 1.25-UNF X 1.00" PIN DIA.  
☐ 1.50-UNF X 1.00" PIN DIA.  
☐ 1.50-UNF X 1.25" PIN DIA.

PRICE = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
 CYLINDER BASE END SHAFT END TOTAL



## SHUR-LIFT 3,000 FEED TUBE CYLINDERS

- These cylinders feature a feed tube running from their shaft end to a base end mounted port
- The feed tube reduces the length of hose running to the shaft end of the cylinder and replaces it with a stronger and more trouble free steel line
- Commonly used on front end loaders and other mobile equipment
- Larger shaft size for increased strength
- 3,000 PSI max. continuous pressure

	Stroke	Retracted Pin to Pin	Shaft Size	Wt. (lbs.)	ITEM	PRICE
2-1/2" bore, 1" dia. pinholes. #6 ORB ports. Base pineye width: 3-1/4". Rod pineye width: 2-1/4". 14,726 lbs. push @ 3,000 PSI.	24"	32"	1-1/2"	32.0	<b>8011732</b>	<b>269.99</b>
4" bore, 1-1/4" dia. pinholes. #8 ORB ports. Base pineye width: 4-3/4". Rod pineye width: 2-3/4". 37,699 lbs. push @ 3,000 PSI.	24"	33"	2"	65.0	<b>8011803</b>	<b>389.99</b>



**MORE SIZES COMING SOON**

## HYDRAULIC CYLINDER REPLACEMENT SEAL KITS

These kits contain all the seals within each cylinder

### SHUR-LIFT 3,000 AND 4,000 KITS

Cylinder Bore	Wt. (lbs)	ITEM	PRICE
1-1/2"	0.1	<b>8018423</b>	<b>12.99</b>
2"	0.1	<b>8018441</b>	<b>15.99</b>
2-1/2"	0.1	<b>8018450</b>	<b>19.99</b>
3"	0.1	<b>8018478</b>	<b>29.99</b>
3-1/2"	0.2	<b>1250105</b>	<b>25.99</b>
4"	0.2	<b>1255058</b>	<b>32.99</b>
5"	0.2	<b>1255066</b>	<b>49.99</b>

### SHUR-LIFT 2,500 KITS

Cylinder Bore	Wt. (lbs)	ITEM	PRICE
1"	0.1	<b>1250023</b>	<b>7.99</b>
1-1/2"	0.1	<b>1251123</b>	<b>10.99</b>
2"	0.3	<b>1251131</b>	<b>11.99</b>
2-1/2"	0.3	<b>1250058</b>	<b>16.99</b>
3"	0.3	<b>1250060</b>	<b>22.99</b>
3-1/2"	0.3	<b>1250061</b>	<b>23.99</b>
4"	0.3	<b>1250062</b>	<b>26.99</b>

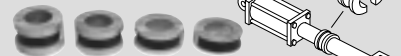
## CLEVIS END



- 1" pinhole, 1-1/8" between clevis ends
- Fits 1-1/4" shaft

**1252451** – Wt. 1.0 lbs. .... **23<sup>99</sup>**

## HYDRAULIC CYLINDER SPACER KITS



- Allows for up to a 4-1/2" adjustment
- Contains one each of the following sizes: 3/4", 1", 1-1/4" and 1-1/2"
- Two piece units are held to cylinder shaft by a single spring clip

For 1-1/8" to 1-1/4" shafts.  
**1251107** – Wt. 0.9 lbs. .... **18<sup>49</sup>**

For 1-3/8" to 1-1/2" shafts.  
**1251115** – Wt. 1.0 lbs. .... **18<sup>49</sup>**

## 8" STROKE TIE ROD HYDRAULIC CYLINDERS



Cylinder breathers available on page 34.

- Retracted length: 20-1/4" pin centres
- Forged clevis
- 1" high tensile steel pins
- 2,500 PSI max. continuous pressure
- Ports at ends for flexibility of mounting
- High tensile steel tie rods
- Nitrile rubber "O" ring and wiper seals for long life

Bore	Shaft size	Ports	Wt. (lbs.)	ITEM	PRICE
2"	1-1/8"	3/8"	18.0	<b>1210003</b>	<b>84.99</b>
2-1/2"	1-1/8"	3/8"	21.0	<b>1210005</b>	<b>89.99</b>
3"	1-1/4"	1/2"	26.0	<b>1210006</b>	<b>94.99</b>
3-1/2"	1-1/4"	1/2"	26.0	<b>1210002</b>	<b>99.99</b>
4"	1-1/4"	1/2"	35.0	<b>1210007</b>	<b>109.99</b>

### 3" BORE 24" STROKE TIE ROD CYLINDER

- Retracted length: 34-1/2" pin centres
- Port size: 1/2" NPT
- 1" pins, 1-1/4" shaft

**1210010** – Wt. 41.8 lbs. .... **149<sup>99</sup>**

## CYLINDER PINS

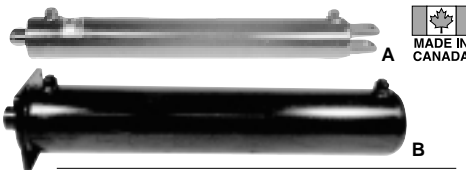
Includes cotter and presto pin.



Dia.	Usable length	O'all length	Wt. (lbs.)	ITEM	PRICE
1/2"	2-3/4"	3-1/2"	0.2	<b>3800449</b>	<b>1.49</b>
3/4"	3-1/4"	4"	0.5	<b>3800450</b>	<b>1.99</b>
1"	2-3/4"	3-1/2"	0.8	<b>3800487</b>	<b>2.99</b>
1"	3-3/4"	4-1/2"	1.0	<b>3800451</b>	<b>3.49</b>
1"	4-1/4"	5"	1.2	<b>3800452</b>	<b>3.79</b>
1"	4-3/4"	5-1/2"	1.3	<b>3800453</b>	<b>4.19</b>
1"	5-1/4"	6"	1.4	<b>3800454</b>	<b>4.49</b>
1"	5-3/4"	6-1/2"	1.5	<b>3800456</b>	<b>5.49</b>
1-1/4"	3-3/4"	4-1/2"	1.6	<b>3800442</b>	<b>4.99</b>
1-1/4"	4-1/4"	5"	1.8	<b>3800443</b>	<b>5.49</b>
1-1/4"	6-1/4"	7"	2.5	<b>3800445</b>	<b>7.49</b>
1-1/4"	7-1/4"	8"	2.8	<b>3800446</b>	<b>7.99</b>

## LOGSPLITTER CYLINDERS

- Threaded head design
- 2" shaft, #8 ORB ports
- 24" stroke
- 3, 3.5 and 4" bores have clevis mounts with 1" pinhole in base end and 5" bore has a flange mount with 5-1/4" centres drilled for 3/8" bolts
- 3", 3.5", and 4" bore shaft ends have been cut down to 1-1/2" with a 3/8" drilled pinhole
- 5" bore shaft end is 2" with a 5/8" drilled pinhole
- 3,000 PSI max. continuous pressure
- Can be used as replacements on Princess Auto logsplitters or to build your own



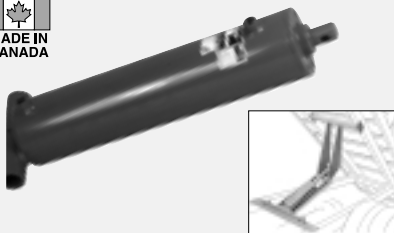
	Force (ton) @ 3000 PSI	Bore	Wt. (lbs.)	ITEM	PRICE
A	10-1/2	3"	48.0	<b>1200247</b>	<b>279.99</b>
A	14-1/2	3.5"	44.0	<b>1200248</b>	<b>299.99</b>
A	19	4"	66.0	<b>1200249</b>	<b>389.99</b>
B	29-1/2	5"	74.0	<b>1200250</b>	<b>519.99</b>

## HYDRAULIC HOIST CYLINDERS

- 14" stroke x 2" shaft
- 21-1/2" retracted length
- #8 O-Ring Boss ports
- 1-1/4" diameter shaft end with 1/2" pinhole
- Base pineye width: 7-1/4", pinhole: 1-1/4" I.D.
- 3,000 PSI max. continuous pressure
- For single lever assembly

**4" BORE** – 7 ton capacity.  
**1200078** – Wt. 49.0 lbs. .... **289<sup>99</sup>** /ea.

**5" BORE** – 12 ton capacity.  
**1200079** – Wt. 55.0 lbs. .... **329<sup>99</sup>** /ea.



## HYDRAULIC POWER PACK CYLINDER

Check out our shop presses on pages 187 to 189

Designed to be used with shop presses as well as for a variety of lifting, spreading, bending, straightening, pushing, pulling, or clamping operations.

- 50 ton capacity
- 6" bore, 5.5" stroke
- 2" shaft
- 11-3/4" retracted height
- 3/8" NPT ports
- Base plate measures: 7" x 9-1/2"
- Ram speed @ 1.6 GPM: 25.4 seconds extending, 22.4 seconds retracting

• 3,500 PSI max. continuous pressure  
**1200060** – Wt. 70.0 lbs. .... **379<sup>99</sup>**

**REPLACEMENT END CAP**  
**1251370** – Wt. 1.3 lbs. .... **14.99**

Replacement seal kits available at all Princess Auto stores



## HYDRAULIC PRESS CYLINDER



- 6" bore, 10" stroke
- #8 ORB ports
- Base pineye width: 6-5/8", Pinhole size: 1-1/4"
- Max. continuous pressure: 3,600 PSI
- Use to build a 50 ton press

**1200083** – Wt. 81.0 lbs. .... **399<sup>99</sup>**  
**REPLACEMENT END CAP**  
**1252444** – Wt. 0.3 lbs. .... **16.99**



## REPLACEMENT END CAPS FOR HYDRAULIC PRESSES

Replaces worn end cap or can be welded to customers' own dies.

Fits our 30 ton press #3460052 on page 188  
**1250029** – Wt. 1.3 lbs. .... **22.99**  
Fits on the 50 ton press #3460068 on page 188.  
**1251388** – Wt. 1.3 lbs. .... **19.99**



## ADJUSTABLE GLAND NUT WRENCH

- Used to remove the threaded head on 3" to 6" utility cylinders.
- Useful when repairing cylinders.

**2990283** – Wt. 2.2 lbs. .... **24<sup>49</sup>**



## HIGH PRESSURE HYDRAULIC PISTON PUMPS

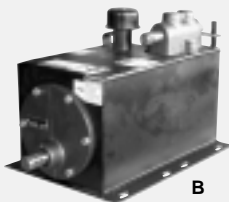
**Williams**

Pressures up to  
5000 PSI.

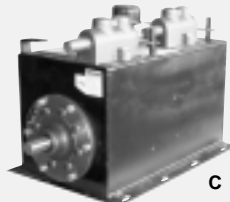
Replacement  
pumps  
available on  
request.



A



B



C

The WILLIAMS Piston Pump is a compact, bi-rotational, and completely self-contained hydraulic power unit. Its extreme reliability and durability make it suited to a wide range of applications including: hoists, presses, dump bodies, and trucks.

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Built-in pressure relief</li> <li>• High contamination tolerance</li> <li>• Steel intake and exhaust valves</li> <li>• Double acting control valves</li> <li>• 3/8" ports</li> </ul> | <ul style="list-style-type: none"> <li>• Constant flow at low RPMs</li> <li>• All interior parts submerged in oil for longer life</li> <li>• Bi-rotational</li> <li>• 1" shaft (with 1/2 woodruff key)</li> <li>• 2, 4, and 8 piston designs</li> </ul> |
|---|---|

	Model NO.	Displ. Cu. In.	Rec. RPM's	GPM @ Max. RPM	Relief Valve Pressure Setting	Reservoir (US GAL)	O'all dim. (l x h x w)	Wt. (lbs.)	ITEM	PRICE
A	20-4-7	0.5	300-1,000	1.6	3,500	1.75	9-1/8" x 10" x 11-1/4"	40.0	<b>1220006</b>	<b>499.99</b>
B	40-4-15	0.9	300-1,000	3.3	3,000	3.75	15-3/8" x 10" x 11-1/4"	53.0	<b>1220029</b>	<b>589.99</b>
B∞	F98-4-21	2.6	300-1,300	13.2	3,000	5.25	20-3/4" x 13-1/2" x 12"	76.0	<b>1220045</b>	<b>819.99</b>
C∞*	H98-4-4R	3.4	300-1,300	17.2	3,000 & 1,500	5.25	20-3/4" x 13-1/2" x 12"	84.0	<b>1222447</b>	<b>959.99</b>

\* Pump has two double-acting control valves. One has a 1,500 PSI relief valve setting the other is set at 3,000 PSI. Ideal to use with a truck hoist if you wish to operate a drill fill auger or some other equipment with a hydraulic motor.

∞ Maximum pressure on these units can be increased to 5,000 PSI when relief valve # 7120007 is installed. Available by special order. Call 1-204-654-5249 for more information.

## STAMPED STEEL PORT FLANGES

- These port flanges make quick and easy work of adding a threaded port to a reservoir
- Just cut pilot hole in tank and weld on threaded port flange



Size	Wt. (lbs.)	ITEM	PRICE
1/4" NPT	0.1	<b>1290228</b>	<b>1.99</b>
3/8" NPT	0.1	<b>1290229</b>	<b>1.99</b>
1/2" NPT	0.1	<b>1290230</b>	<b>1.99</b>
3/4" NPT	0.2	<b>1290231</b>	<b>2.99</b>
1" NPT	0.2	<b>1290232</b>	<b>3.29</b>
1-1/4" NPT	1.8	<b>1290233</b>	<b>3.49</b>
1-1/2" NPT	2.0	<b>1290234</b>	<b>3.99</b>
2" NPT	0.3	<b>1290235</b>	<b>3.99</b>

## OIL TEMPERATURE/LEVEL GAUGE

- Heavy aluminum cast body
- Temperature range: 27° to 109°C (80° to 225°F)
- 1/2" hollow bolts for mounting
- Mounts on the side of hydraulic reservoir tank to indicate oil level and temperature

**1250028** - Wt. 0.9 lbs. .... **26<sup>99</sup>**



**Williams pumps are stocked in all stores  
west of Winnipeg.  
Please call 1-800-665-8685 for special orders.**

## REPLACEMENT BREATHER CAPS



For Williams pumps.  
**1252923** - Wt. 0.1 lbs. .... **6<sup>99</sup>**

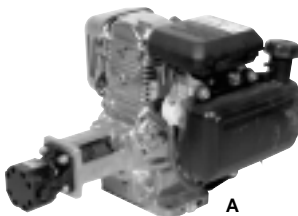
## VALVE ADAPTER PLATE



- Enables a remote directional control valve to be used
- Remove standard valve, bolt on adapter plate and plumb remote valve with hoses
- 1/2" NPT ports

**1291400** - Wt. 1.8 lbs. .... **35<sup>99</sup>**

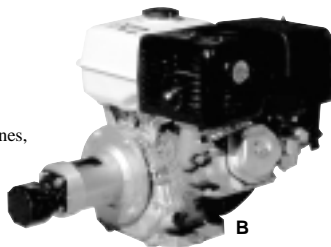
## SINGLE-STAGE GAS POWERED HYDRAULIC POWER PACKS



A



Portable hydraulic power using reliable Honda engines, and Haldex Barnes pump with cast iron body and hardened steel gears.



B

### (A) 5 HP HONDA GC

- Max. continuous flow: 2 GPM
- Max. continuous pressure: 3,000 PSI
- #8 O-Ring Boss ports

1270026 – Wt. 45.0 lbs. .... **629<sup>99</sup>**

### (B) 11 HP HONDA GX

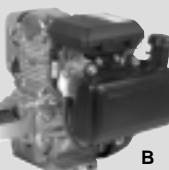
- Max. continuous flow: 4 GPM
- Max. continuous pressure: 3,000 PSI
- #8 O-Ring Boss ports

1270105 – Wt. 91.0 lbs. .... **1299<sup>99</sup>**

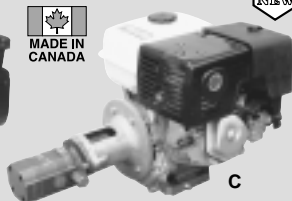
## 2-STAGE GAS POWERED HYDRAULIC POWER PACKS



A



B



C

### IDEAL FOR LOGSPLITTERS

These power packs can be used anywhere. They have a gas engine coupled directly to a two-stage high/low hydraulic pump. The pumps deliver high volume at low pressure and low volume at high pressure.

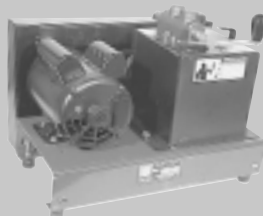
**A & B:** Inlet 1" tube, outlet 1/2" FNPT. **C:** Inlet 1" tube, outlet 3/4" FNPT

\*Engine has low oil alert and overhead valves.

Engine	Volume (GPM)@		Max. PSI@ 3600 RPM	Wt. (lbs.)	ITEM	PRICE
	Low	High				
A 5.5 HP Honda OHV*	10.6	2.9	3000	50.0	1270004	919.99
A 9 HP Honda OHV*	16.0	4.0	3000	75.0	1270005	1299.99
B 5.0 HP Honda GC	10.6	2.9	2500	45.0	1270037	669.99
C 11 HP Honda OHV*	21.4	6.1	2100	105.0	1270106	1599.99

## AC POWER PACKS

IDEAL FOR PRESSES and COMPACTORS!



- Motor: 5 HP, 230 volt, 22 amps, 3,450 RPM
- Pump: Williams 2-piston pump. 1.6 GPM
- Valve: Double acting factory preset @ 3,500 PSI, 3/8" NPT work ports

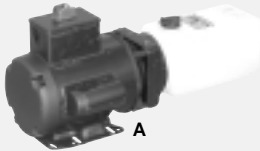
• 7 qt. reservoir  
• O'all dim.: 21" x 19" x 16"  
1270002 – Wt. 120.0 lbs. .... **1049<sup>99</sup>**

- Motor: 2 HP, 115/230 volt, 18/9 amps, 3,450 RPM
- Pump: Williams 2-piston pump, 1.75 GPM
- Valve: Double acting factory preset @ 2,200 PSI, 3/8" NPT work ports

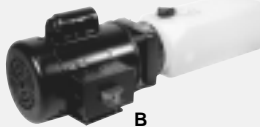
• 7 qt. reservoir  
• O'all dim.: 16" x 21" x 18"  
1270099 – Wt. 100.0 lbs. .... **899<sup>99</sup>**

# PAL Hydraulics

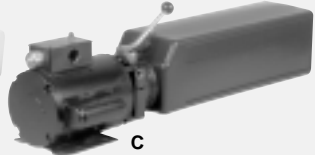
## 208-230 VAC POWER PACKS



- Rotary motor on/off switch
- Directional control valve must be added



- 2-stage pump features 4.3 GPM up to 600 PSI
- 0.6 GPM up to 3,600 PSI
- On/off switch wired to motor
- Ideal for presses and compactors
- Directional control valve is required



- Push button to start motor and raise load; release button to hold
- Lever controls lowering speed
- Built and designed for vertical mount

	Volt	HP	GPM	Relief setting	Ports	Reservoir (US gallon)	Duty Cycle	Wt. (lbs.)	ITEM	PRICE
A	208-230	2	1.47	3,800 PSI	3/8" NPT	0.75	10%	54.0	<b>1270023</b>	<b>669.99</b>
B*	115/208-230	2	4.3 0.6	up to 600 PSI 3,600 PSI	3/8" NPT	1.0	Cont.	50.0	<b>1270038</b>	<b>969.99</b>
C	208-230	—	1.83	2,320 PSI	#6 ORB	3.5	10%	58.0	<b>1270025</b>	<b>879.99</b>

\* Draws 22 amps @ 115 volts.

## PICK - A - PACK CUSTOM BUILT HYDRAULIC POWER PACKS

14 Optional Reservoirs

Optional Solenoid or Manual Valves

Fenner  
Fluid Power

2 Optional AC Motors

8 Pump Options

### \*AC NEMA MOTORS

Single phase.

HP	RPM	Volts	Hz	ITEM	PRICE
1	3,450	115/230	60	<b>1270042</b>	<b>549.99</b>
2	3,450	115/230	60	<b>1270043</b>	<b>619.99</b>

### PUMPS

Type	ITEM	PRICE
0.061 cu. in./rev. (1.0 cc/rev.)	<b>1270047</b>	<b>124.99</b>
0.073 cu. in./rev. (1.2 cc/rev.)	<b>1270048</b>	<b>124.99</b>
0.098 cu. in./rev. (1.6 cc/rev.)	<b>1270049</b>	<b>124.99</b>
0.122 cu. in./rev. (2.0 cc/rev.)	<b>1270050</b>	<b>124.99</b>
0.153 cu. in./rev. (2.5 cc/rev.)	<b>1270051</b>	<b>134.99</b>
0.189 cu. in./rev. (3.1 cc/rev.)	<b>1270052</b>	<b>139.99</b>
0.244 cu. in./rev. (4.0 cc/rev.)	<b>1270053</b>	<b>134.99</b>
0.305 cu. in./rev. (5.0 cc/rev.)	<b>1270054</b>	<b>149.99</b>

**Call 1-204-654-5249,**  
**7 days a week for information.**  
Delivery guaranteed in 2 weeks or less.

### METAL RESERVOIRS

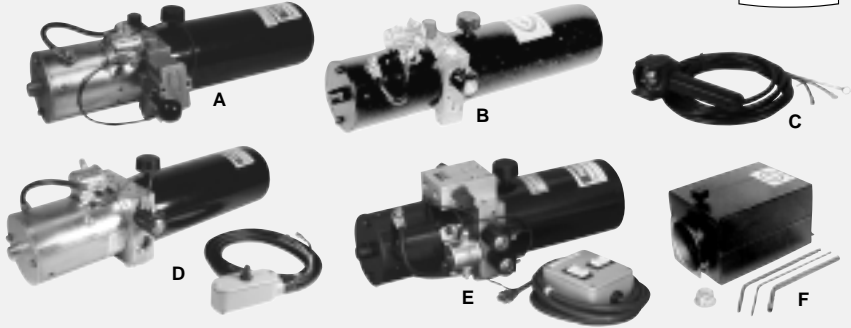
We also carry many plastic reservoirs.

Nominal Capacity US GAL	Useable Horizontal cu. in.	Useable Vertical cu. in.	ITEM	PRICE
0.50	90	85	<b>1270063</b>	<b>54.99</b>
0.75	135	145	<b>1270064</b>	<b>59.99</b>
1.00	170	200	<b>1270102</b>	<b>74.99</b>
1.50	270	220	<b>1270067</b>	<b>99.99</b>
2.50	390	380	<b>1270068</b>	<b>109.99</b>
3.00	500	520	<b>1270069</b>	<b>119.99</b>

Valves and accessories also required. All components are available individually for use as replacement parts.

\* 12 VDC Motors are also available.

## HYDRAULIC DC UTILITY POWER PACKS



These 12 volt DC POWER UNITS can be used for many applications including cranes, dump trucks, tailgate lifts, material handling, farm machinery and many others. All units are self-contained with a 12 VDC motor, hydraulic pump and 0.75 US gallon oil reservoir.

### Specifications:

- 1.1 GPM @ 2,500 PSI @ 260 amps @ 11.7 volts
- 2.7 GPM @ 0 PSI @ 90 amps @ 11.7 volts
- Motor solenoid draws 3.3 amps
- Relief valve adjustable from 500 to 2500 PSI
- Ports: #6 ORB
- #1 cable required to supply power

### (A) SINGLE ACTING – MANUALLY OPERATED

Use with single acting hydraulic cylinders.

**1270313** – Wt. 30.0 lbs. .... **539<sup>99</sup>**

### (B) SINGLE ACTING – SOLENOID OPERATED

- For use with single-acting hydraulic cylinders
- Valve spool is electrically activated via solenoid
- Switch required (see below)

**1270446** – Wt. 35.0 lbs. .... **559<sup>99</sup>**

### (C) REMOTE POWER SWITCH

For single-acting solenoid operated power pack (1270446).

**1279975** – Wt. 1.5 lbs. .... **149<sup>99</sup>**

### (D) DOUBLE ACTING – SOLENOID OPERATED

- For use with double acting hydraulic cylinders
- Valve spool is electrically activated via solenoid
- Includes a remote switch with a 10 ft. cord
- 1/4" NPT ports

**1270339** – Wt. 32.0 lbs. .... **699<sup>99</sup>**

### (E) 12 VOLT DUAL VALVE POWER PACK

- 0.5 US gallon reservoir
- One single-acting spool and one double-acting spool so two different cylinders can be operated
- Complete with a control box with a 10 ft. cord

Specifications:

- 2.8 GPM @ 0 PSI @ 90 amps @ 12 volts
- 1.7 GPM @ 1,450 PSI @ 80 amps @ 12 volts
- 1.1 GPM @ 2,500 PSI @ 230 amps @ 12 volts
- 1/4" NPT ports

**1270438** – Wt. 20.0 lbs. .... **999<sup>99</sup>**

### (F) 2.5 US GALLON POWER PACK RESERVOIR

- Replaces existing reservoir when extra oil capacity is needed
- Reservoir comes complete with relief return tube, main return tube, suction tube, suction screen, breather, seals and gasket
- O' all dim.: 6-1/2" x 8" x 12"

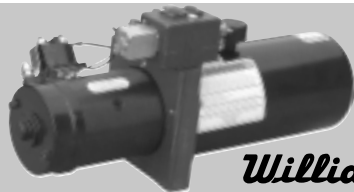
**1279983** – Wt. 8.0 lbs. .... **129<sup>99</sup>**

## 12 VDC 3 PISTON HYDRAULIC PISTON PUMP

**Up to 5,000 PSI**

### Features:

- **PISTON PUMPS** are more efficient than gear pumps, thus require less amperage under normal working conditions. They also work better under cold and hot weather conditions.
- **DIRECTIONAL CONTROL VALVES**
  - Unique feature of being Power Up, Power Down, and Gravity Down
  - Also has "Recycle System" that directs oil flow from rod end of cylinder to base end. The flow is also sent from base end to rod end. Only excess oil goes to the reservoir allowing the use of a considerably smaller reservoir.
  - See stores for more info on these unique features.



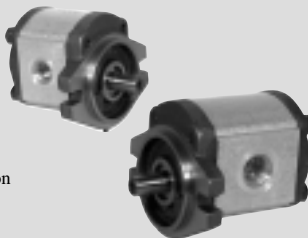
**Williams**

- 12 volt, intermittent duty motor
- 0.09 cubic inch/rev. (1.5 to 0.5 GPM output)
- Adjustable relief valve set @ 3,000 PSI
- 5,000 PSI max. continuous pressure
- Unique double acting directional control valve with "recycle" system
- One work port has a built in relief to control cylinder lowering
- 1/4" NPT ports
- 0.66 US gallon reservoir

**1270093** – Wt. 50.0 lbs. .... **769<sup>99</sup>**

## RONZIO HYDRAULIC GEAR PUMPS

<b>Feature</b>	High speed	Reversible
<b>Benefit</b>	Direct drive from gas engines.	Useful for more than one application.
<b>Application</b>	Logsplitters, compactors	CW or CCW drive units



- 3/4" shaft with keyway
- CW rotation is reversible with minor changes to pump configuration (instructions included)
- Pump has SAE type "A" two-bolt flange
- Cast iron end caps and steel gears with an aluminum gear housing

Model #	Displ. in Cu. In./rev.	GPM Max.	Max. Continuous Pressure	Peak PSI	RPM		In/ Out Port Sizes (ORB)	Wt. (lbs.)	ITEM	PRICE
					Min.	Max.				
PZ2CG04...	0.269	6.40	4,350	5,220	1,000	5,500	10/10	7.9	<b>8025102</b>	<b>179.99</b>
PZ2CG06...	0.384	9.14	4,350	5,220	700	5,500	10/10	8.2	<b>8025111</b>	<b>189.99</b>
PZ2CG08...	0.498	10.13	4,350	5,220	550	4,700	10/10	8.4	<b>8025120</b>	<b>194.99</b>
PZ2CG11...	0.69	11.95	4,350	5,220	450	4,000	10/10	9.0	<b>8025139</b>	<b>199.99</b>
PZ2CG14...	0.882	12.60	4,350	5,220	400	3,300	10/10	9.3	<b>8025148</b>	<b>209.99</b>
PZ2CG17...	1.03	13.38	3,910	4,780	350	3,000	12/10	9.5	<b>8025166</b>	<b>219.99</b>
PZ2CG20...	1.23	15.97	3,330	4,200	300	3,000	12/10	9.7	<b>8025175</b>	<b>229.99</b>
PZ2CG25...	1.57	20.39	2,610	3,330	250	3,000	12/10	10.1	<b>8025184</b>	<b>239.99</b>
PZ2CG31...	1.92	22.44	2,320	2,900	200	2,700	12/10	10.8	<b>8025193</b>	<b>249.99</b>

Pumps listed above can be converted to unidirectional motors by using kit 7120171 available by special order.

## HYDRAULIC GEAR PUMPS

*Danfoss*



"K" SERIES

"YC" SERIES

Type	Cu. In. Displ.	GPM @ 2,000 RPM	Max. PSI	Max. RPM	Rotation	Shaft	Ports		Wt. (lbs.)	ITEM	PRICE
							Inlet	Outlet			
K	3.88	32	2,500	2,750	CCW	1"	#20 ORB	#16 ORB	15.5	<b>1220441</b>	<b>499.99</b>
K	3.88	32	2,500	2,750	CW	1"	#20 ORB	#16 ORB	15.5	<b>1220458</b>	<b>499.99</b>
YC	1.94	16	2,000	3,000	CCW	3/4"	1" NPT	1/2" NPT	6.0	<b>1220474</b>	<b>339.99</b>
YC	1.94	16	2,000	3,000	CW	3/4"	1" NPT	1/2" NPT	6.0	<b>1220482</b>	<b>339.99</b>

## GEROTOR-TYPE PUMP and MOTOR

- Compact & lightweight
- 0.58 cu. in displacement
- High speed, low torque
- Max. continuous pressure: 2,000 PSI
- 9/16" shaft
- #10 ORB rear ports
- CW or CCW rotation

**PUMP** – 2.51 GPM @ 1,000 RPM.  
Max. 3,500 RPM.

**1220375** – Wt. 3.3 lbs. ....

**MOTOR** – Ideal for air seeders, fans and sprayer pumps. Max. 5,000 RPM. Requires 2.51 GPM per 1,000 RPM. 92 in.-lbs. torque per 1,000 PSI.

**1220383** – Wt. 3.3 lbs. ....

**289<sup>99</sup>**

**289<sup>99</sup>**

**GRESEN®**

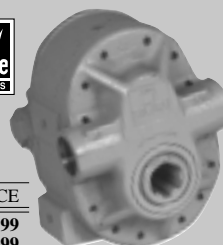


## PTO PUMPS

Ideal for use with front end loaders on tractors without integral hydraulics, landscape equipment and back hoes. Slips onto tractor PTO shaft, no gearbox required.

- High tensile cast iron end plates and aluminum center gear housing
- Self adjusting wear plates on both sides of the gears offset wear and expansion
- #16 ORB inlet and #12 ORB outlet ports
- 1-3/8" diameter, 6 tooth internal splined drive shaft
- Standard speed: 540 RPM for 6 tooth shaft, max. 600 RPM

Displacement	Flow @ 2,000 PSI	Max. PSI	Wt. (lbs.)	ITEM	PRICE
5.7 cu. in./rev.	11.4 GPM	2,250	36.0	<b>8005268</b>	<b>649.99</b>
9.9 cu. in./rev.	21 GPM	2,250	40.0	<b>8005213</b>	<b>699.99</b>





## BARNES 2-STAGE PUMPS

### IDEAL FOR LOGSPLITTER

- Designed for applications requiring fast approach/retract actuator speeds due to horsepower limitations or safety concerns
- Typical applications include logsplitters, presses, trash compactors and crimping machines
- Shaft: 1/2" dia. x 1-1/2" long (5/8" dia. on 1222173)
- Mount: 4 bolt (2 bolt SAE in 1222173)
- Ports: 1" tube inlet, 1/2" NPTF outlet (3/4" NPTF on 1222173)
- Rotation: clockwise
- Max. continuous pressure: 3,000 PSI
- Adjustable unloader range: 400-900 PSI (400-700 on 1222173), set @ 650 PSI
- 500-4,000 RPM range

Low pressure flow	High pressure flow	Low pressure gear displacement	High pressure gear displacement	HP required	Wt. (lbs.)	ITEM	PRICE
10.6 GPM	2.9 GPM	0.517 cu. in.	0.194 cu. in.	5 HP	10.0	<b>1221118</b>	<b>239.99</b>
16.0 GPM	4.0 GPM	0.776 cu. in.	0.258 cu. in.	8 HP	10.0	<b>1221555</b>	<b>269.99</b>
22.0 GPM	6.1 GPM	0.930 cu. in.	0.465 cu. in.	16 HP	19.0	<b>1222173</b>	<b>599.99</b>



## JSB HYDRAULIC PUMP/MOTOR

These compact pumps/motors are built with cast iron bodies, and hardened steel gears. Suitable for use in agriculture, construction and material handling. Bi-rotational, 1/2" shaft, 1-1/2" long. 4 bolt flange with 1.78" pilot flange. #4 ORB case drain port must be returned to tank when used as a motor. Can be belt or chain driven with a max sideload of 150 lbs. Max. 4,000 RPM.

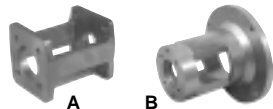
Displacement per Revolution (cu. in.)	Port Size (ORB)	Flow		Pressure rating		Wt. (lbs.)	ITEM	PRICE
		@ 1,800 RPM GPM	@ 3,600 RPM GPM	Continuous PSI	Intermittent PSI			
0.129	8	1.0	2.0	3,000	4,000	3.0	<b>1220030</b>	<b>219.99</b>
0.258	8	2.0	4.0	2,300	4,000	3.0	<b>1220031</b>	<b>229.99</b>
0.399	10	3.0	6.0	1,600	2,500	3.0	<b>1220032</b>	<b>239.99</b>
0.517	10	4.0	8.0	1,200	2,000	3.0	<b>1220033</b>	<b>249.99</b>

## HYDRAULIC KICK-OFF VALVE



- **Ideal for logsplitters**
  - Max. continuous flow: 20 GPM
  - 1/2" NPT work ports,
  - 3/4" NPT inlet and outlet ports
  - Adjustable relief from 400 to 2,500 PSI Preset @ 2,000 PSI
  - Spring return one way, detent the other way
  - Detent has a pressure activated "kick-off" that automatically shifts spool to neutral
  - Detent relief cartridge non adjustable
  - Automatic return position allows operators hands to be free while cylinder is retracting
  - For use on open centre systems
- 1242296** - Wt. 10.0 lbs. .... **139<sup>99</sup>**

## PUMP MOUNTING BRACKETS



These brackets are designed to bolt a hydraulic pump directly to most gas engines. The engine and pump shaft connect with flexible couplings.

See page 85 for flexible couplings.

(A) **3 to 5.5 HP ENGINE MOUNT**

4 bolt mount with 2" bolt centres.

**2400463** - Wt. 1.3 lbs. .... **44<sup>99</sup>**

(B) **8 to 9 HP ENGINE MOUNT**

4 bolt mount with 2" bolt centres or 2 bolt mount with 3-1/4" bolt centres.

**2400003** - Wt. 3.0 lbs. .... **64<sup>99</sup>**

## FOOT MOUNTING BRACKETS

Simplifies mounting of hydraulic pumps and motors. Base has four 1/2" mounting holes on 4-1/4" x 2" centers. 4-hole bracket has 3-1/4" center hole with four 7/16" bolt holes on 4-3/16" centers. Fits any pump or motor with SAE "A" flanges.

**1250026** - Wt. 1.7 lbs. .... **22<sup>99</sup>**





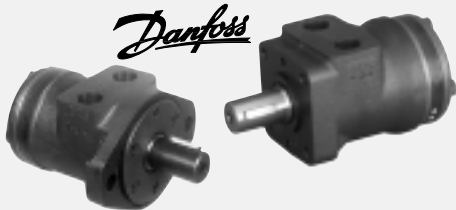
## HYDRAULIC ORBIT MOTORS

DANFOSS MOTORS offer superior performance in a wide range of applications; agriculture, forestry, mining, construction, and marine.

Features:

- Instantly reversible
- 1" shafts, 1/2" ports
- Max. continuous flow: 16 GPM

3 year manufacturer's warranty.



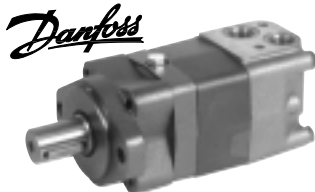
(For Danfoss to Char-Lynn interchangeability, please contact your nearest store.)

Model #	Flange	Cu. In. Displ./ Rev.	10 GPM @ 1,000 PSI		16 GPM @ 1,000 PSI		Max. Cont. PSI	Wt. (lbs.)	ITEM	PRICE
			RPM	Torque (in.-lbs.)	RPM	Torque (in.-lbs.)				
151-2121	4-Bolt	3	775	400	1260	350	1,800	10.6	<b>1220565</b>	<b>249.99</b>
151-2081	2-Bolt	3	775	400	1260	350	1,800	11.5	<b>1220649</b>	<b>249.99</b>
151-2122	4-Bolt	4.8	485	600	780	550	1,800	10.8	<b>1220573</b>	<b>269.99</b>
151-2082	2-Bolt	4.8	485	600	780	550	1,800	12.0	<b>1220656</b>	<b>269.99</b>
151-2123	4-Bolt	5.9	400	720	625	650	1,800	11.5	<b>1220581</b>	<b>279.99</b>
151-2083	2-Bolt	5.9	400	720	625	650	1,800	12.5	<b>1220672</b>	<b>279.99</b>
151-2125	4-Bolt	9.5	240	1,150	385	950	1,650	12.5	<b>1220599</b>	<b>299.99</b>
151-2085	2-Bolt	9.5	240	1,150	385	950	1,650	13.5	<b>1220680</b>	<b>299.99</b>
151-2126	4-Bolt	11.8	195	1,400	310	1,300	1,500	13.0	<b>1220607</b>	<b>309.99</b>
151-2127	4-Bolt	14.8	155	1,750	250	1,500	1,400	12.8	<b>1220008</b>	<b>329.99</b>
151-2128	4-Bolt	18.7	124	2,250	197	1,900	1,250	13.5	<b>1220014</b>	<b>349.99</b>
151-2129	4-Bolt	23.8	95	2,900	157	2,500	1,000	15.0	<b>1220631</b>	<b>379.99</b>

## DANFOSS OMS SERIES ORBIT MOTOR

- HIGHER TORQUE
- HIGHER PRESSURE

The DANFOSS OMS Series Disc Valve Motor is truly a high torque, low speed hydraulic motor. Ideal for rock pickers, windrowers, and many other applications. This motor has a continuous capacity up to 20 GPM with a max. of 2,700 PSI. 1-1/4" shaft, #10 ORB inlet/outlet ports. 3 year manufacturer's warranty.



Model	Cu. In. Displ./ Rev.	10 GPM @ 1,000 PSI		15 GPM @ 1,000 PSI		Max. Continuous PSI	Wt. (lbs.)	ITEM	PRICE
		RPM	Torque (in.-lbs.)	RPM	Torque (in.-lbs.)				
OMS315	19.2	120	2,900	175	2,800	1,700	27.0	<b>1220022</b>	<b>649.99</b>

## HYDRAULIC CONTROL VALVE TERMINOLOGY

**CLOSED CENTER PLUG** – Placed inside outlet port to convert valve from open to closed center. In closed center systems, fluid flow is stopped when the valve handle is in the neutral (middle) position. (Example: John Deere tractors). When converting to a closed center system, the use of a relief valve plug is recommended.

**RELIEF VALVE PLUG** – Replaces existing relief valve cartridge when closed center plug is used. This eliminates problems caused by the use of two relief valves in a closed center system.

**NOTE:** All closed center systems **MUST** have a main relief valve.

**DETENT KIT** – Allows valve handle to remain in selected position. Used in hydraulic motor applications. (Replaces existing spring return kit)

**FLOAT POSITION** – Allows hydraulic fluid to flow from work ports to tank in neutral position. Used primarily on grader blades to allow blade to float over uneven surfaces.

**JOYSTICK** – Allows the activation of two spools from a single lever.

**OPTIONAL MOTOR SPOOL** – Enables replacement of existing double acting spool, allowing hydraulic motor to freewheel in neutral.

**OPTIONAL SINGLE ACTING SPOOL** – Enables replacement of existing double acting spool, allowing operation of a single acting cylinder.

**POWER BEYOND ADAPTER** – Placed in side outlet port to add down stream valves without causing excessive pressure in return system.

## CUSTOM BUILD SECTIONAL VALVES

Designed and built to your Specifications.

### BC20

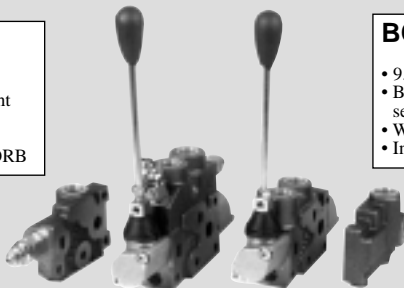
- 4.5 GPM
- Build spools up to eight sections
- Work ports: #6 ORB
- Inlet/outlet ports: #8 ORB



### BC40

- 9.0 GPM
- Build spools up to ten sections
- Work ports: #8 ORB
- Inlet/outlet ports: #10 ORB

EUROPEAN  
DESIGN by 



- Eight section options:
  - Four manual spool controls
  - Four 12V spool controls
- Max. continuous pressure: 3,200 PSI (manual), 2,600 PSI (electric)
- Peak pressure: 4,400 PSI (manual), 3,600 PSI (electric)
- Maximum return line pressure: 550 PSI
- All spools are stock as double acting and spring return to neutral but can be modified to be either single acting or a motor spool (see page 20)
- Other valve options include power beyond, closed centre, detent positioning, and a spool controlled microswitch (see page 20)

#### INLET COVER



	ITEM	PRICE
BC20	<b>1240021</b>	<b>55.99</b>
BC40	<b>1240016</b>	<b>61.99</b>

When using a flow control section, recuperation sections must be installed to use excess flow.  
Contact any store or phone 1-204-654-5249 for valve design and quote.

#### DOUBLE ACTING



Actuator	ITEM	PRICE
BC20 Manual	<b>1240023</b>	<b>104.99</b>
BC20 12 volt	<b>1240080</b>	<b>399.99</b>
BC40 Manual	<b>1240018</b>	<b>121.99</b>
BC40 12 volt	<b>1240138</b>	<b>439.99</b>

#### DOUBLE ACTING with FLOW CONTROL



Actuator	ITEM	PRICE
BC20 Manual	<b>1240190</b>	<b>149.99</b>
BC20 12 volt	<b>1240096</b>	<b>499.99</b>
BC40 Manual	<b>1240147</b>	<b>219.99</b>
BC40 12 volt	<b>1240150</b>	<b>539.99</b>

#### DOUBLE ACTING with WORK PORT RELIEF



Actuator	ITEM	PRICE
BC20 Manual	<b>1240024</b>	<b>149.99</b>
BC20 12 volt	<b>1240086</b>	<b>449.99</b>
BC40 Manual	<b>1240020</b>	<b>179.99</b>
BC40 12 volt	<b>1240144</b>	<b>499.99</b>

#### DOUBLE ACTING with FLOW CONTROL and WORK PORT RELIEF



Actuator	ITEM	PRICE
BC20 Manual	<b>1240101</b>	<b>259.99</b>
BC20 12 volt	<b>1240104</b>	<b>549.99</b>
BC40 Manual	<b>1240153</b>	<b>289.99</b>
BC40 12 volt	<b>1240156</b>	<b>599.99</b>

#### OUTLET COVER

Power beyond adapter and closed centre adapters available.  
See page 20.



ITEM	PRICE
BC20	<b>1240022</b> <b>39.99</b>
BC40	<b>1240017</b> <b>55.99</b>

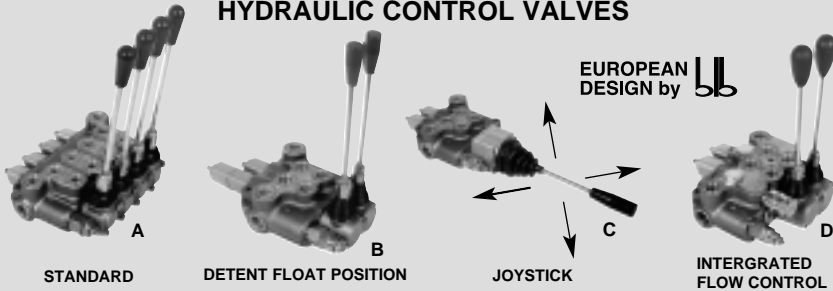
#### ADJUSTABLE FLOW CONTROL



Actuator	ITEM	PRICE
BC20 Manual	<b>1240119</b>	<b>129.99</b>
BC40 Manual	<b>1240203</b>	<b>159.99</b>

**CALL 1-204-654-5249 FOR INFORMATION AND PRICE QUOTES.**

# HYDRAULIC CONTROL VALVES



## All "BM/BF" SERIES Monoblock Hydraulic Valves have the following features:

- Designed for mobile machine application
- Max. continuous pressure: 3,200 PSI, peak pressure: 4,400 PSI
- Maximum return line pressure: 1,100 PSI
- Parallel circuit
- Standard 4-way, 3-position/spring return to neutral except where otherwise stated
- Open center
- Relief valve pre-set at 2,100 PSI/ adjustable from 1,500 PSI to 3,750 PSI
- Control handles can be mounted in vertical or horizontal position
- Temperature: -20 to 80°C (-4 to 176°F)
- Float spools are machined for their valve body and are not interchangeable

### Flexible Spool Configuration

One or more spools can be changed depending on your application. See page 20 for available options including motor spools, single acting spools, closed center, and power beyond plugs, and detent kits. Call for availability.

## BM 20 SERIES SPECIFICATIONS

### Lightweight & Compact

- BM 20 series valves are lightweight and compact and are ideal when space and weight are a factor  
Example: A double spool BM20 weighs 3 lbs. and measures: 2" x 4-1/2" x 6"
- Continuous flow: 4.5 GPM
- Peak flow: 6.6 GPM
- #6 ORB work and top inlet/outlet ports
- #8 ORB side inlet/outlet ports

	Wt. (lbs.)	ITEM	PRICE
A Single spool	2.0	1249531	129.99
A Double spool	5.5	1249549	199.99
A Three spool	7.3	1249556	289.99
A Four spool	9.1	1249564	369.99
A Five spool	10.8	1249572*	449.99
A Six spool	13.4	1249580*	499.99

\* Not stocked in all stores

## BM 40 SERIES SPECIFICATIONS

- Continuous flow: 9 GPM
- Peak flow: 12 GPM
- #8 ORB work and top inlet/outlet ports
- #10 ORB side inlet/outlet ports

	Wt. (lbs.)	ITEM	PRICE
A Single spool*	4.6	1249598	99.99
A Single spool	5.4	1249721	149.99
A Double spool	8.4	1249739	239.99
A Three spool	11.4	1249747	319.99
A Four spool	14.6	1249754	389.99
B Single float spool	5.8	1249705	179.99
B Double spool (float/standard)	9.0	1249713	259.99
C Double spool with joy stick	8.6	8006338	379.99

\* BM30 same specs. as BM40 except only one inlet and one outlet and all ports are #8 ORB.

## BM 70 SERIES SPECIFICATIONS

- Continuous flow: 17 GPM
- Peak flow: 24 GPM
- #10 ORB work and top inlet/outlet ports
- #12 ORB side inlet/outlet ports

	Wt. (lbs.)	ITEM	PRICE
A Single spool	10.6	1249796	199.99
A Double spool	15.0	1249804	299.99
A Three spool	20.2	1249812	399.99
A Four spool	29.0	1249820	519.99
A Five spool	29.8	1249838	599.99
A Six spool	34.8	1249846	699.99
B Single spool (float)	10.8	1249762	229.99
B Double spool (float/standard)	15.8	1249770	319.99
C Double spool with joy stick	15.8	1249788	439.99

## BF 40 SERIES SPECIFICATIONS

### Integrated Pressure Compensation Flow Control

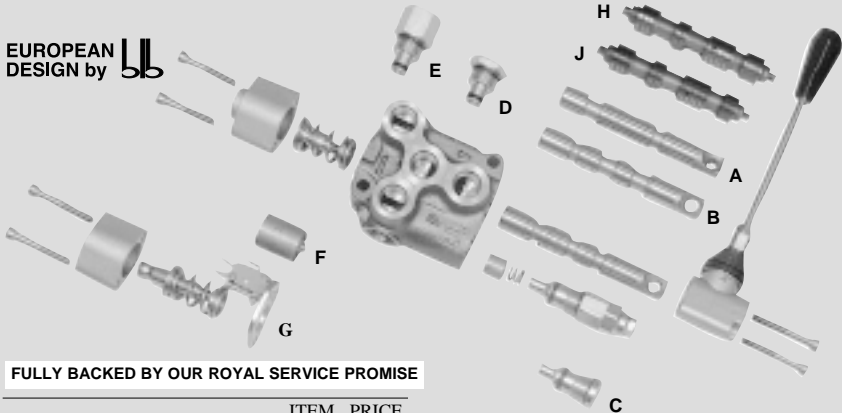
Feature	Benefit
Integrated flow control	Less cost than two separate valves
Flow is only diverted through flow control when handle is activated	Less heat generated and full flow available when handle is in neutral
Pressure compensation	Flow is not affected by pressure change

- Continuous flow: 9 GPM
- Peak flow: 12 GPM
- #8 ORB work and top inlet/outlet ports
- #10 ORB side inlet/outlet ports
- Flow control only regulates flow in first spool

	Wt. (lbs.)	ITEM	PRICE
D Single spool	8.6	1249655	249.99
D Double spool	11.6	1249663	349.99

## ACCESSORIES for HYDRAULIC CONTROL VALVES

EUROPEAN  
DESIGN by 



FULLY BACKED BY OUR ROYAL SERVICE PROMISE

	ITEM	PRICE
<b>(A) SINGLE ACTING SPOOLS</b>		
• BM20/BC20 Valves	1259027	22.99
• BM30, 40/BF40/BC40/FM55	1259092	24.99
• BM70 Valves	1259159	34.99
<b>(B) MOTOR SPOOLS</b>		
• BM20/BC20 Valves	1259019	22.99
• BM30, 40/BF40/BC40/FM55	1259084	24.99
• BM70 Valves	1259142	35.99
<b>(C) RELIEF VALVE PLUGS</b>		
• BM20/BC20 Valves	1250032	14.99
• BM30, 40/BF40/BC40/FM55	1259076	10.99
• BM70 Valves	1250033	21.99
<b>(D) CLOSED CENTER PLUGS</b>		
• BM20/BC20	1250107	14.99
• BM30, 40/BF40/BC40/FM55	1259068	15.99
• BM70 Valves	1259134	16.99
<b>(E) POWER BEYOND ADAPTERS</b>		
• BM20/BC20 Valves	1259001	15.99
• BM30, 40/BF40/BC40/FM55	1259050	17.99
• BM70 Valves	1259126	19.99

Accessories are shown as optional parts for a standard valve.

NOTE: All these accessories are easily field installed.

	ITEM	PRICE
<b>(F) DETENT KITS</b>		
• BM20/BC20 Valves	1259035	16.99
• BM30, 40/BF40/BC40/FM55	1259100	18.99
• BM70 Valves	1259167	24.99
<b>(G) MICRO SWITCHES</b>		
• BM20/BC20 Valves	1259043	49.99
• BM30, 40/BF40/BC40/FM55	1259118	42.99
<b>(H) SOLENOID SINGLE ACTING SPOOLS</b>		
• BM20/BC20 Valves	1240121	19.99
• BM40/BF40/BC40 Valves	1240205	21.99
<b>(J) SOLENOID MOTOR SPOOLS</b>		
• BM20/BC20 Valves	1240122	19.99
• BM40/BF40/BC40 Valves	1240206	21.99

## JOYSTICK KITS



Kit for BM40 valves.	
1250104 – Wt. 1.6 lbs. ....	169 <sup>99</sup>
Kit for BM70 valves (Excludes float position valve).	
1250175 – Wt. 1.8 lbs. ....	169 <sup>99</sup>
Spools must be changed for BM 40 series.	
1250110 – Double acting spool.	
1250111 – Single acting spool.	
1250112 – Motor spool. ....	56 <sup>99</sup>
• Available by special order, stocked in Winnipeg	
• If the valve is new, credit will be given for spools that are removed	

## TECH TIP

**Can I convert my hydraulic control valve to single acting by simply plugging one of the work ports?**

While this will work, it will also result in a lot of heat build up within the hydraulic system because oil will go over the relief valve in one of the spool positions. The best solution is to either replace the valve or change to a single acting spool provided the design of the valve will allow it.

## HYDRAULIC VALVE REMOTE CONTROL SYSTEM

**INDEMAR**

- The control connects to the front of BLB valves allowing remote operation
- Remote valve control can be mounted up to 12-1/2 ft. away from the hydraulic valve



### (A) JOYSTICK REMOTE VALVE CONTROL

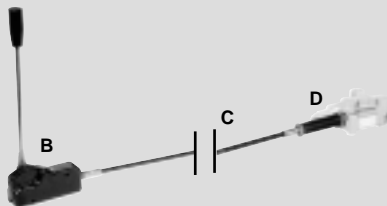
- Shift 2 hydraulic valves with 1 control
- Weatherproof control can be mounted on interior or exterior of vehicle

**8000977** – Wt. 3.4 lbs. **129<sup>99</sup>**

### (B) SINGLE AXIS REMOTE VALVE CONTROL

- Units can be mounted individually or stacked for multi-spool valves
- Weatherproof control can be mounted on interior or exterior of vehicle

**8000986** – Wt. 1.6 lbs. **44<sup>99</sup>**



### (C) REMOTE VALVE CONTROL CABLES

Length	Wt. (lbs.)	ITEM	PRICE
39"	0.8	<b>8000995</b>	<b>44.99</b>
59"	1.3	<b>8001002</b>	<b>49.99</b>
78"	1.7	<b>8001020</b>	<b>54.99</b>
118"	2.5	<b>8001057</b>	<b>64.99</b>
151"	3.2	<b>8001066</b>	<b>74.99</b>

### (D) VALVE CONNECTION KITS

Attaches cable to the hydraulic valve.

Fits valve	Wt. (lbs.)	ITEM	PRICE
BM 40	0.1	<b>8001075</b>	<b>16.99</b>
BM 70	0.1	<b>8001084</b>	<b>16.99</b>

## P.T.O. CABLES and ACCESSORIES



### (A) P.T.O. and VALVE CONTROL CABLES

- 5" travel
- 1/2"-20 thread mount
- 0.091" dia. oil tempered steel cable
- 0.375" dia. conduit

**10 FT. LONG**

**3890492** – Wt. 2.5 lbs. **25<sup>99</sup>**

**15 FT. LONG**

**3890493** – Wt. 3.1 lbs. **31<sup>99</sup>**

### (B) KNOB

- 2" dia. black knobs for use on P.T.O. cable, etc.
- 3/8" 24-thread

**3891348** – Wt. 0.1 lbs. **3<sup>99</sup>**



### (C) BOWDEN PIN

Attaches cable end to 3/16" thick lever with 1/4" hole.

**3890502** – Wt. 0.2 lbs. **4<sup>19</sup>**

### (D) BRASS CONSTRUCTION BOWDEN PIN

Attaches to cable end and has 0.098" hole. Wt. 0.1 lbs.

**3890500** – 3/8" dia. **2<sup>69</sup>**

**3890501** – 7/16" dia. **2<sup>69</sup>**

### (E) CLAMP

- Secure conduit end of P.T.O. cable
- 1/4" mounting hole

**3890497** – Wt. 0.1 lbs. **3<sup>69</sup>**

## ROD ENDS

Wt. 0.1 lbs.

Thread Size	ITEM	PRICE	ITEM	PRICE
1/4"- 28 NF	<b>3870009</b>	<b>3.29</b>	<b>3870020</b>	<b>12.99</b>
5/16"- 24 NF	<b>3870010</b>	<b>3.99</b>	<b>3870021</b>	<b>13.99</b>
3/8"- 24 NF	<b>3870012</b>	<b>5.49</b>	<b>3870022</b>	<b>15.99</b>
1/2"- 20 NF	<b>3870013</b>	<b>9.99</b>	<b>3870023</b>	<b>28.99</b>

Wt. 0.1 lbs.

Thread Size	Hole Dia.	ITEM	PRICE	ITEM	PRICE
1/4"- 28 NF	1/4"	<b>3870025</b>	<b>11.99</b>	<b>3870015</b>	<b>8.99</b>
5/16"- 24 NF	5/16"	<b>3870026</b>	<b>12.99</b>	<b>3870016</b>	<b>9.99</b>
3/8"- 24 NF	3/8"	<b>3870027</b>	<b>14.99</b>	<b>3870017</b>	<b>11.99</b>
1/2"- 20 NF	1/2"	<b>3870028</b>	<b>24.99</b>	<b>3870018</b>	<b>22.99</b>

## ADJUSTABLE YOKE with PIN

Approx. Wt. 0.1 lbs.

**1/4-28NF thread.**

A: 2", B: 1-1/4", C: 9/32".

**3880036** **4<sup>49</sup>**

**5/16-24NF thread.**

A: 2-1/4", B: 1-7/16", C: 11/32".

**3880044** **4<sup>69</sup>**

**3/8-24NF thread.**

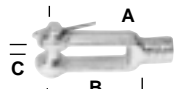
A: 2-1/2", B: 1-5/8", C: 7/16".

**3880051** **4<sup>59</sup>**

**1/2-20NF thread.**

A: 3", B: 1-7/8", C: 9/16".

**3880069** **5<sup>99</sup>**



## MONOBLOCK DIRECTIONAL CONTROL VALVES

**GRESEN®**



A



B



C

### SP MODEL Features:

- Standard 4-way, 3-position valve
- Double acting
- Spring return to neutral, open center
- Work ports are blocked in neutral
- Oil is available to all work ports
- Max. continuous flow: 20 GPM
- Ball/spring type relief valve factory set @ 1,500 PSI
- Max. continuous pressure: 2,000 PSI
- Two or more spools can be shifted at the same time
- Each spool is equipped with load checks
- Control handles may be mounted in "UP" or "DOWN" position
- 3/4" NPT inlet and outlet ports, 1/2" NPT work ports

### SPXTE MODEL Features:

Shares SP model features with the following differences:

- Can be converted to closed centre (with optional plug below)
- Can be converted to power beyond to allow for the addition of down stream valves (with optional plug below)
- Comes with 2 outlet ports, one on top and one on side

	Spool Count	Model	Wt. (lbs.)	ITEM	PRICE
A	1	SP model	16.0	<b>1240035</b>	<b>239.99</b>
A	1	SPXTE model	16.0	<b>1241975</b>	<b>269.99</b>
B	2	SPXTE model	25.0	<b>1241967</b>	<b>379.99</b>
C	3	SP model	34.0	<b>1240100</b>	<b>439.99</b>
C	3	SPXTE model	34.0	<b>1241959</b>	<b>489.99</b>

## CONTROL VALVE ACCESSORIES

### REPLACEMENT HANDLES

For above valves.

**1242163** - Wt. 1.0 lbs. .... **17.99**

### CONVERSION PORT MODIFICATION KITS



A



B

Include all necessary seals.

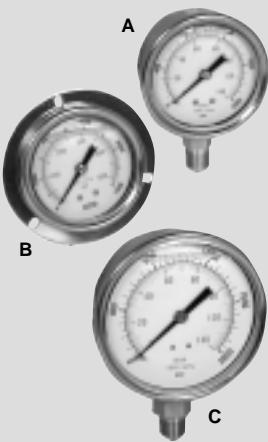
	Gresen #	Description	Wt. (lbs.)	ITEM	PRICE
A	K-SP-75-Y	3/4" NPT power beyond sleeve kit	0.3	<b>1252394</b>	<b>28.99</b>
B	K-SP-C	Closed center plug kit	0.5	<b>1252402</b>	<b>25.99</b>

### 3-POSITION DETENT KIT

- Converts spool from spring return to neutral to spring in three positions (spool holds in position when shifted)
- Can be used on one or more spools
- For all SP valves

**1252428** - Wt. 1.0 lbs. .... **31.99**

## GLYCERINE FILLED PRESSURE GAUGES



A

B

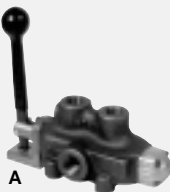
C

- Provides longer life and reduces erratic needle movement
- Scale shows PSI and Bar
- Designed for rugged heavy service

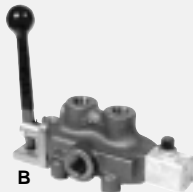
	Mount type	Thread (NPT)	Face Diameter	Pressure Range PSI	Wt. (lbs.)	ITEM	PRICE
A	Vert.	1/4"	2-1/2"	0-2,000	0.6	<b>8000833</b>	<b>14.99</b>
A	Vert.	1/4"	2-1/2"	0-3,500	0.6	<b>8000842</b>	<b>15.99</b>
A	Vert.	1/4"	2-1/2"	0-5,000	0.6	<b>8000851</b>	<b>16.99</b>
A	Vert.	1/4"	2-1/2"	0-7,500	0.6	<b>8000860</b>	<b>17.99</b>
B	Horiz.	1/4"	2-1/2"	0-2,000	0.6	<b>8000879</b>	<b>18.99</b>
B	Horiz.	1/4"	2-1/2"	0-3,500	0.6	<b>8000888</b>	<b>19.99</b>
B	Horiz.	1/4"	2-1/2"	0-5,000	0.6	<b>8000897</b>	<b>20.99</b>
B	Horiz.	1/4"	2-1/2"	0-7,500	0.6	<b>8000904</b>	<b>21.99</b>
C	Vert.	3/8"	4"	0-2,000	1.6	<b>8000913</b>	<b>43.99</b>
C	Vert.	3/8"	4"	0-3,500	1.6	<b>8000922</b>	<b>45.99</b>
C	Vert.	3/8"	4"	0-5,000	1.6	<b>8000931</b>	<b>47.99</b>
C	Vert.	3/8"	4"	0-7,500	1.6	<b>8000940</b>	<b>49.99</b>

## SINGLE SPOOL DIRECTIONAL CONTROL VALVES

**GRESEN®**



A



B



C

### Features/Specifications:

- Adjustable relief (900-2,000 PSI), factory set @ 1,500 PSI
- Work ports are blocked in neutral
- Max. continuous pressure: 2,000 PSI
- Max. continuous flow: 16 GPM
- Open center design
- Spring return to neutral (except 1240373)
- 3/4" inlet/outlet ports, 1/2" work ports

#### (A) 400 HP VALVE

- Designed to control a double acting cylinder or a reversible hydraulic motor

• 4 way, 3 position  
**1240357** – Wt. 10.0 lbs. .... **159<sup>99</sup>**

#### (B) 410 HP VALVE

- Detent positions: handle locks in forward, neutral, and reverse to control hydraulic motors
- Work ports are open to tank in neutral
- 4 way, 3 position

**1240373** – Wt. 10.0 lbs. .... **179<sup>99</sup>**

#### (C) 300 HP VALVE

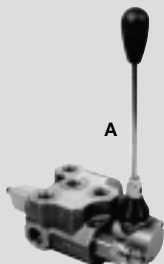
- Single acting
- For one-way motor or single acting hydraulic cylinder
- Built-in load check
- 3 way, 3 position

**1240365** – Wt. 10.0 lbs. .... **169<sup>99</sup>**

## FM 55 SERIES

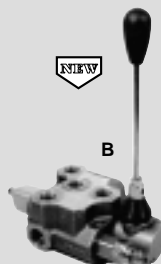
EUROPEAN  
DESIGN by 

  
MADE IN  
ITALY



A

Feature	Benefit
13 GPM @ 3200 PSI	Meets demand of higher flow actuators
Compact size	Designed for where weight and space restrictions are specified
Convertible to single acting motor spool and detent positioning	Easily adaptable to fit a wide variety of applications



B

### Features/Specifications:

- Max. continuous Pressure: 3,200 PSI
- Peak Pressure: 4,400 PSI
- Maximum Continuous Flow: 13.1 GPM
- Peak Flow: 18.4 GPM

#### (A) SINGLE SPOOL

- Designed to control a double acting cylinder or a reversible hydraulic motor
- 4 way, 3 position

**8003849** – Wt. 6.6 lbs. .... **149<sup>99</sup>**

- Work Port size: #10 ORB
- Inlet/ Outlet Port Size: #10 ORB
- Relief Valve: Preset @ 2030 PSI, Adjustable from 1450 to 3625 PSI

#### (B) SINGLE MOTOR SPOOL

- Detent positions: handle locks in forward, neutral and reverse to control hydraulic motors
- Work ports are open in neutral
- 4 way, 3 position

**8003983** – Wt. 6.6 lbs. .... **159<sup>99</sup>**

### Flexible Spool Configuration

One or more spools can be changed depending on your application.

See page 20 for available options including motor spools, single acting spools, closed centre, and power beyond plugs, and detent kits.

Call for availability.

## TECH TIP

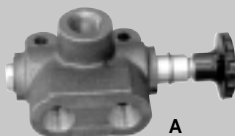
### What information do I need to decide which hydraulic control valve is right for my system?

There are a number of important specifications you should know to aide in the selection of a control valve.

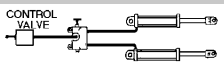
- 1- Open or closed center
- 2- Maximum pressure
- 3- Maximum flow
- 4- Single acting, double acting or motor spool

While this is not a complete list of possible options it would provide enough information to select the proper valve for most applications.

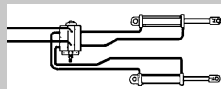
## HYDRAULIC SELECTOR VALVES



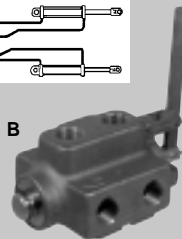
A



**GRESEN®**



B



### (A) 2-POSITION, 2-WAY SELECTOR VALVES

- Use to direct the incoming flow between two outlet ports by push-pull activation
- Possible applications include directing the pump flow between two control valves or using with one 3-way, 2-position control valve to activate two single acting cylinders
- Cast iron body, pressure balanced spool
- 2,000 PSI max. continuous pressure

**20 GPM MAX.**

1/2" NPT ports.

**1240456** – Wt. 2.8 lbs. .... **74<sup>99</sup>**

**30 GPM MAX.**

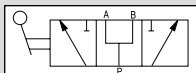
3/4" NPT ports.

**1240464** – Wt. 5.5 lbs. .... **94<sup>99</sup>**

### (B) 2-POSITION, 4-WAY SELECTOR VALVE

- Use to direct two incoming flows between two sets of outlets
- Possible applications include operating 2 double acting cylinders or hydraulic motors with one 4-way control valve
- 2,000 PSI max. continuous pressure
- 24 GPM max. continuous flow
- 3/4" ports

**1240449** – Wt. 12.0 lbs. .... **149<sup>99</sup>**

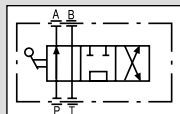


**d&b** 

### 3-POSITION, 2-WAY SELECTOR VALVE

- Use to split the incoming flow between 2 outlets (A,B) or direct the flow to 1 outlet at a time
- Possible applications include running two hydraulic motors at the same time or individually or controlling 2 single acting hydraulic cylinders in tandem or separately with one 3 way, 2 position control valve

Model #	Max Flow (GPM)	Max PSI	Ports (ORB)	Wt. (lbs.)	Item	Price
D3GF8A	9 1/2	3,625	8	2.1	<b>8006793</b>	<b>39.99</b>
D3GF10A	15	3,625	10	2.8	<b>8006800</b>	<b>49.99</b>
D3GF12A	25	3,625	12	4.4	<b>8006819</b>	<b>59.99</b>

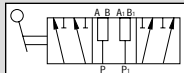


**d&b** 

### 3-POSITION, 4-WAY SELECTOR VALVE

- Use to either direct incoming flow to port A and allow return flow through port B or incoming flow through port B and return flow through port A
- Incoming flow returns to tank in center position
- Acts similar to a double acting hydraulic control valve

Model #	Max Flow (GPM)	Max PSI	Ports (ORB)	Wt. (lbs.)	Item	Price
D4GF8	9 1/2	3,625	8	3.0	<b>8006828</b>	<b>49.99</b>
D4GF10	15	3,625	10	4.1	<b>8006837</b>	<b>58.99</b>



**d&b** 

### 3-POSITION, 6-WAY SELECTOR VALVE

- Use to split 2 incoming flows into 4 outlet flows (A,B,A1,B1) or to direct the 2 incoming flows to either (A,A1) or to (B,B1)

Model #	Max Flow (GPM)	Max PSI	Ports (ORB)	Wt. (lbs.)	Item	Price
D6GF8A	9 1/2	3,625	8	3.6	<b>8006846</b>	<b>99.99</b>
D6GF10A	15	3,625	10	5.4	<b>8006855</b>	<b>109.99</b>
D6GF12A	25	3,625	12	8.0	<b>8006864</b>	<b>129.99</b>



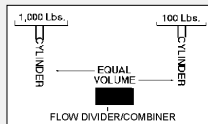
## PRIORITY FLOW DIVIDER/COMBINER

- Ideal for front-end loaders
- Proportional-type pressure compensated flow divider divides a single flow of hydraulic oil into two equal flows
- The flow ratio from the outlet ports remain constant although the work being done by one may be greater than the other
- Combiner feature allows flow to be combined in reverse direction and synchronized in both directions

**d&b**  
HYDRAULICS



**NEW**



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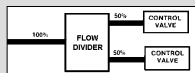


	Model #	Max GPM	Max PSI	Ports	Wt. (lbs.)	Item	Price
A	VEQ22 F8	5-8	3,625	#8 ORB	2.9	<b>8006766</b>	<b>169.99</b>
A	VEQ25 F10	7-10	3,625	#10 ORB	2.9	<b>8006775</b>	<b>169.99</b>
A	VEQ30 F10	10-15	3,625	#10 ORB	2.9	<b>8006784</b>	<b>169.99</b>
B	PDC-75-50	15-35	2,500	3/4" NPT	7.0	<b>1240571</b>	<b>199.99</b>

## FLOW DIVIDER

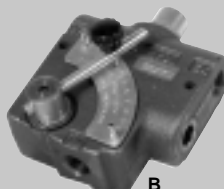
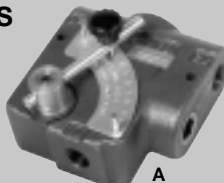
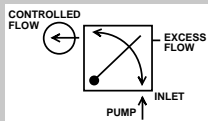
- Divides single flow into 2 equal flows, even though the work being done by one of the flows is greater than the other
- Max. continuous pressure: 2,500 PSI
- Max. continuous flow: 35 GPM
- 3/4" NPT ports
- Not reversible

**GRESEN®**



**149<sup>99</sup>**

## FLOW CONTROL VALVES



### (A) PRESSURE COMPENSATED FLOW (SPEED) CONTROL

- Flow can be completely shut off or wide open
- Output flow is smooth and constant regardless of pressure changes on the "controlled flow" line
- Both outlets are pressure compensated
- Max. continuous pressure: 3,000 PSI
- O' all dim.: 4-5/8" x 4-1/2" x 1-7/8"

1/2" NPT ports, 0-16 GPM.

**1240985** – Wt. 8.0 lbs. **129<sup>99</sup>**

3/4" NPT ports, 0-30 GPM.

**1240977** – Wt. 8.0 lbs. **129<sup>99</sup>**

### (B) FLOW (SPEED) CONTROL VALVE

Similar to (A) except with built-in adjustable relief valve.

1/2" NPT ports, 0-16 GPM.

**1241009** – Wt. 8.0 lbs. **149<sup>99</sup>**

3/4" NPT ports, 0-30 GPM.

**1241025** – Wt. 8.0 lbs. **149<sup>99</sup>**

## TECH TIP

### What is the difference between a pressure compensated flow control and priority flow control?

A pressure compensated flow control will deliver the same controlled flow regardless of pressure as long as the inlet flow remains constant. If the inlet flow is increased or decreased the controlled flow will also vary accordingly. A priority flow control will deliver the same controlled flow regardless of changes to the inlet flow or pressure as long as the inlet flow exceeds controlled flow demand.

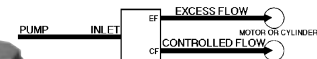
### Do NPT fittings work well in high-pressure applications?

While NPT fittings will work in high-pressure applications they are not the best choice. These fittings are prone to loosening and/or cracking when there is temperature cycling in the system and because the threads are tapered, repeated assembly and disassembly can cause the threads to distort, leading to leakage. Fittings that work better for high-pressure sealing are ORB or JIC.

## PRIORITY TYPE ADJUSTABLE FLOW DIVIDERS

- Designed for applications where two separate hydraulic power circuits are to be served from a single pump
- A constant regulated flow is maintained at the controlled flow port regardless of changes in load pressure or input pump flow, so long as input pump flow exceeds controlled-flow port demand
- Excess flow can be used in a secondary circuit

d&b  
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### (A) FLOW DIVIDER

- Max. continuous pressure: 3,600 PSI
- Rated: 9 GPM cont., 12 GPM peak
- #10 ORB inlet and excess flow outlet
- #8 ORB priority flow port

**1240028** – Wt. 2.3 lbs. .... **119<sup>99</sup>**

### (A) FLOW DIVIDER

- Max. continuous pressure: 3,600 PSI
- Rated: 17 GPM cont., 24 GPM peak
- #12 ORB inlet and excess flow outlet
- #10 ORB priority flow port

**1240029** – Wt. 3.6 lbs. .... **149<sup>99</sup>**

### (B) FLOW DIVIDER

Specifications:

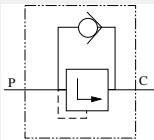
- Input flow up to 30 GPM
- Adjustable controlled-flow range 1-25 GPM
- Max. continuous pressure: 3,500 PSI
- Port size #12 ORB
- 12 positive detent position hand adjusting knob available
- Accuracy control  $\pm 10\%$  min. operating pressure drop 70 PSI

**1240670** – Wt. 8.0 lbs. .... **209<sup>99</sup>**

## DIRECT ACTING SEQUENCE VALVES

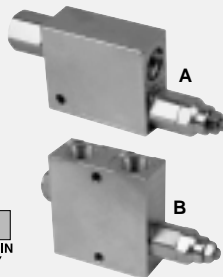
- Relief cartridge is preset at 2,000 PSI and is adjustable from 150 to 3,500 PSI
- Use in a system to fully extend one cylinder before the next operation starts
- Two port configurations available, types A and B
- #12 ORB ports

	Model #	GPM	Wt. (lbs.)	ITEM	PRICE
A	VSQ/40	10	2.0	<b>1240059</b>	<b>69.99</b>
B	VSQ/L/40	10	2.5	<b>1240060</b>	<b>74.99</b>



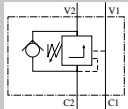
d&b  
HYDRAULICS

MADE IN ITALY

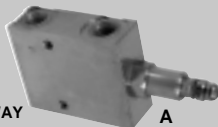


## COUNTER BALANCE VALVES

d&b  
HYDRAULICS

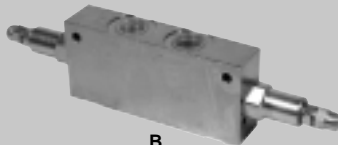


**1 - WAY**



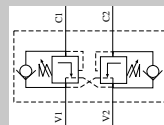
**A**

MADE IN ITALY



**B**

**2 - WAY**

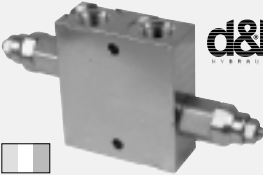


- Controls maximum return flow to equal pump output
- Prevents load induced acceleration and pump cavitation
- This valve is used in many load lowering applications to control the rate of descent ie. truck boxes, tilt bed trailers or cranes.
- Maximum continuous pressure: 4,350 PSI
- Peak Pressure: 5,000 PSI
- Relief pressure pre-set @ 3,200 PSI
- Adjustable from 1,450 PSI to 3,625 PSI

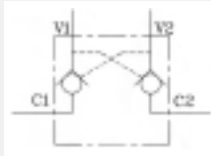
	Continuous Flow (GPM)	Peak Flow (GPM)	Ports Size (ORB)	Wt. (lbs.)	ITEM	PRICE
A	8	10	8	2.8	<b>1240065</b>	<b>69.99</b>
A	15	19	10	5.2	<b>1240066</b>	<b>119.99</b>
B*	8	10	8	3.8	<b>1240063</b>	<b>119.99</b>
B*	15	19	10	8.0	<b>1240064</b>	<b>169.99</b>

\* Not stocked in all stores. Call 1-204-654-5249 for information.

## CROSS OVER RELIEF VALVES (CUSHION VALVES)



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TECHNICS



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ITALY

- Max. continuous pressure: 4,350 PSI
- Relief cartridges are preset at 2,000 PSI and are adjustable from 150 to 3,500 PSI

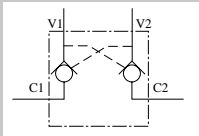
Model #	Max. GPM	Ports (ORB)	Wt. (lbs.)	ITEM	PRICE
CP/DI/L/40	10	8	2.5	<b>1240044</b>	<b>79.99</b>
CP/DI/L/80	20	10	4.5	<b>1240045</b>	<b>99.99</b>

Eliminates or minimizes shock or surge pressure on hydraulic motors.

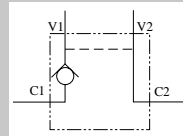
- Max. continuous pressure: 2,000 PSI
  - 1/2" ports
  - Max. continuous flow: 10 GPM
  - Relief valve preset @ 2,000 PSI
- 1240480** – Wt. 4.0 lbs. ....

**109<sup>99</sup>**

## PILOT OPERATED CHECK VALVES (LOCK VALVES)



**2 - WAY**

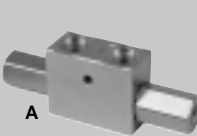


**1 - WAY**

- Require pressure from one work port to open the return line of the other work port
- Holds the load in position, preventing creeping
- Best used with motor spool to prevent initial bounce
- Maximum continuous pressure: 4,350 PSI
- Peak pressure: 5,000 PSI

**d&b**  
TECHNICS

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ITALY



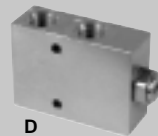
**A**



**B**



**C**



**D**

### 2 WAY PILOT OPERATED CHECK VALVES

- Designed to work in both directions
- Two port configurations available, types A and B

Model #	Max. GPM	Ports (ORB)	Wt. (lbs.)	ITEM	PRICE
A VBD/F6	5	6	1.5	<b>1240046</b>	<b>34.99</b>
A VBD/F8	8.75	8	1.6	<b>1240047</b>	<b>39.99</b>
A VBD/F10	12.5	10	2.4	<b>1240048</b>	<b>44.99</b>
B VBB/L/F6	5	6	3.2	<b>1240053</b>	<b>69.99</b>
B VBB/L/F8	8.75	8	3.1	<b>1240054</b>	<b>74.99</b>
B VBB/L/F10	12.5	10	3.2	<b>1240055</b>	<b>79.99</b>

### 1 WAY PILOT OPERATED CHECK VALVES

- Designed to work in one direction
- Two port configurations available, types C and D

Model #	Max. GPM	Ports (ORB)	Wt. (lbs.)	ITEM	PRICE
C VBS/F6	5	6	1.5	<b>1240049</b>	<b>34.99</b>
C VBS/F8	8.75	8	1.7	<b>1240051</b>	<b>39.99</b>
C VBS/F10	12.5	10	2.4	<b>1240052</b>	<b>44.99</b>
D VBS/L/F6	5	6	2.2	<b>1240056</b>	<b>49.99</b>
D VBS/L/F8	8.75	8	2.1	<b>1240057</b>	<b>54.99</b>
D VBS/L/10	12.5	10	2.5	<b>1240058</b>	<b>59.99</b>



### 2 WAY PILOT OPERATED CHECK VALVE

**GRESEN®**

- Max. continuous pressure: 3,000 PSI
  - Max. continuous flow: 25 GPM
  - 1/2" NPT ports
  - Designed to work in both directions
- 1240639** – Wt. 6.0 lbs. ....

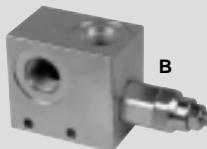
**139<sup>99</sup>**

## ADJUSTABLE RELIEF VALVES

- These relief valve are used to control the maximum pressure in the portion of the hydraulic system where they are installed.
- Protects components from overpressuring



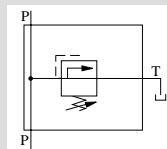
A



B

**d&b**  
HYDRAULICS

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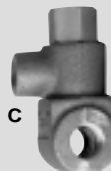


### (A&B) RELIEF VALVE

- Designed to withstand system pressure up to 5,000 PSI
- Relief cartridge is preset at 2,000 PSI and is adjustable from 150 to 3,500 PSI
- Use to set maximum operating pressure by setting relief pressure approx. 300 PSI over system pressure
- Two port configurations available, type A and type B

Model #	Max. GPM	Ports (ORB)	Wt. (lbs.)	ITEM	PRICE
A CP20	5	6	1.2	<b>1240037</b>	<b>39.99</b>
A CP40	10	8	1.4	<b>1240038</b>	<b>44.99</b>
A CP80	20	10	3.2	<b>1240039</b>	<b>49.99</b>
B CP/L 20	5	6	1.2	<b>1240040</b>	<b>44.99</b>
B CP/L 40	10	8	2.0	<b>1240041</b>	<b>49.99</b>
B CP/L 80	20	10	3.2	<b>1240042</b>	<b>59.99</b>

**ENERGY**  
HYDRAULICS

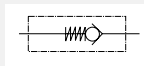


C

### (C) RELIEF VALVE

- Up to 30 GPM flow and pressures from 700 to 3,000 PSI
  - Preset at 1,500 PSI. 3/4" NPT flow ports, 1/2" NPT spill port
- 1241587** – Wt. 3.5 lbs. .... **129<sup>99</sup>**

## LINE CHECK VALVES



**NEW**

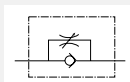
**d&b**  
HYDRAULICS

MADE IN  
ITALY

Permits oil flow in one direction only.

Model #	Max GPM	Max PSI	Ports (ORB)	Wt. (lbs.)	Item	Price
VNR/SFF8	7.5	7,250	8	0.4	<b>8006720</b>	<b>14.99</b>
VNR/SFF10	12.5	10,150	10	0.5	<b>8006739</b>	<b>19.99</b>

## ADJUSTABLE LINE THROTTLE VALVES



**NEW**

**d&b**  
HYDRAULICS

MADE IN  
ITALY

These simple and versatile little valves are an inexpensive way to restrict the flow of oil to various components in a hydraulic system. They are adjustable from 0 GPM to their maximum rated capacity in one direction and capable of full flow in the other direction.

Use To:

- Control cylinder stroke speed
- Prevent pump cavitation by controlling cylinders or motors with inertia loads
- Meter the flow to a hydraulic motor to control its speed

Model #	Min GPM	Max GPM	Max PSI	Ports (ORB)	Wt. (lbs.)	Item	Price
ST/UF8	0	7.5	4,350	8	0.7	<b>8006748</b>	<b>29.99</b>
ST/UF10	0	11.25	4,350	10	0.8	<b>8006757</b>	<b>39.99</b>

**Princess Auto  
offers on-going  
Hydraulic training  
schools for our  
Team Members  
conducted by a  
certified Mobile  
Hydraulic  
Technician.**

## AIR SPEED CONTROLLER



- Built in check valve
  - 1/4" NPT ports
  - 145 PSI max.
  - Controls the speed of air cylinders and motors
- 1240034** – Wt. 0.2 lbs. .... **6<sup>99</sup>**



## HYDRAULIC HOSE BY THE FOOT

### 1-WIRE SAE 100 R1 AT

Size	Working pressure	Min. bend radius	Wt. (lbs.)	ITEM	PRICE (ft.)
1/4"	3,210	3.5"	0.1	<b>1290210</b>	<b>1.39</b>
3/8"	2,570	5.5"	0.2	<b>1290213</b>	<b>1.69</b>
1/2"	2,295	7"	0.3	<b>1290215</b>	<b>1.89</b>
3/4"	1,500	9.5"	0.4	<b>1290217</b>	<b>2.49</b>
1"	1,255	12"	0.6	<b>1290209</b>	<b>3.49</b>

### 2-WIRE SAE 100 R2 AT

Size	Working pressure	Min. bend radius	Wt. (lbs.)	ITEM	PRICE (ft.)
1/4"	5,710	4"	0.1	<b>1290211</b>	<b>1.49</b>
3/8"	4,710	5.5"	0.3	<b>1290214</b>	<b>1.79</b>
1/2"	3,930	7"	0.3	<b>1290216</b>	<b>1.99</b>
3/4"	3,070	9.5"	0.4	<b>1290218</b>	<b>2.99</b>
1"	2,355	12"	0.6	<b>1290219</b>	<b>4.49</b>

- TOP QUALITY
- RUBBER COVERED
- HIGH TENSILE STRENGTH STEEL WIRE REINFORCING
- TEMPERATURE RANGE: -40 to 100°C (-40 to 212°F)
- Proper braiding allows the hose to retain flexibility and withstand high pressures and rough usage
- Manufactured and tested to SAE 100R1 and SAE 100R2 specifications



## Custom Built Hose Assemblies



- **7 DAYS A WEEK!**
- **FREE CUTTING AND CRIMPING**
- Select a length of 1 or 2 wire hose from our selection ranging from 1/4" - 1"
- Select the crimp fittings you need from our range of sizes and styles: NPT, JIC, ORB, fixed or swivel, straight, 45° or 90°

CRIMP DIAMETER		
Hose Size	1 Wire	2 Wire
1/4"	0.610"	0.653"
3/8"	0.748"	0.810"
1/2"	0.905"	0.903"
3/4"	1.100"	1.160"
1"	1.410"	1.470"

## NPT FITTINGS



		RIGID MALE 			SWIVEL MALE 		
Hose I.D.	End Size	Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE
1/4"	1/8"	0.1	<b>1290240</b>	<b>3.29</b>	—	—	—
1/4"	1/4"	0.1	<b>1290241</b>	<b>3.29</b>	0.1	<b>1290255</b>	<b>5.99</b>
1/4"	3/8"	0.1	<b>1290242</b>	<b>3.59</b>	0.1	<b>1290256</b>	<b>6.49</b>
1/4"	1/2"	0.1	<b>1290243</b>	<b>7.99</b>	—	—	—
3/8"	1/4"	0.1	<b>1290244</b>	<b>3.49</b>	—	—	—
3/8"	3/8"	0.1	<b>1290245</b>	<b>3.59</b>	0.2	<b>1290257</b>	<b>6.49</b>
3/8"	1/2"	0.2	<b>1290247</b>	<b>4.29</b>	0.2	<b>1290258</b>	<b>7.49</b>
1/2"	3/8"	0.2	<b>1290248</b>	<b>3.99</b>	—	—	—
1/2"	1/2"	0.2	<b>1290249</b>	<b>3.99</b>	0.4	<b>1290259</b>	<b>6.99</b>
3/4"	3/4"	0.4	<b>1290251</b>	<b>6.99</b>	0.6	<b>1290260</b>	<b>11.99</b>
1"	1"	0.6	<b>1290252</b>	<b>11.99</b>	0.8	<b>1290262</b>	<b>19.99</b>

		RIGID FEMALE 			SWIVEL FEMALE 		
Hose I.D.	End Size	Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE
1/4"	1/4"	0.1	<b>1290266</b>	<b>3.99</b>	0.1	<b>1290263</b>	<b>4.49</b>
3/8"	3/8"	0.1	<b>1290267</b>	<b>4.49</b>	0.2	<b>1290264</b>	<b>4.99</b>
1/2"	1/2"	0.2	<b>1290268</b>	<b>5.49</b>	0.4	<b>1290265</b>	<b>5.99</b>



## HYDRAULIC HOSE CRIMP FITTINGS

Manufactured and tested to SAE 100R1 and SAE 100R2 specifications.

### O-RING BOSS MALE FITTINGS



Hose I.D.	End Size	RIGID			SWIVEL			90° SWIVEL		
		Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE
1/4"	#4 ORB	0.1	1290269	3.99	—	—	—	—	—	—
1/4"	#6 ORB	0.1	1290270	4.69	0.3	1290364	6.99	0.4	1290365	11.49
1/4"	#8 ORB	0.1	1290271	9.99	—	—	—	—	—	—
3/8"	#6 ORB	0.1	1290272	4.49	0.1	1290281	7.49	0.4	1290366	11.49
3/8"	#8 ORB	0.2	1290273	4.99	0.2	1290282	7.99	0.4	1290367	11.49
3/8"	#10 ORB	—	—	—	—	—	—	0.5	1290368	12.49
1/2"	#8 ORB	0.2	1290274	5.49	0.4	1290283	8.49	0.6	1290358	11.99
1/2"	#10 ORB	0.2	1290275	5.99	0.6	1290284	8.99	0.6	1290359	12.49
3/4"	#10 ORB	0.4	1290361	10.99	—	—	—	—	—	—

### JIC FITTINGS



Hose I.D.	End Size	RIGID MALE			SWIVEL FEMALE		
		Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE
1/4"	1/4"	0.1	1290285	3.59	0.1	1290294	3.89
1/4"	5/16"	0.1	1290286	3.59	0.1	1290296	3.99
1/4"	3/8"	0.1	1290362	3.99	0.1	1290297	3.99
3/8"	3/8"	0.1	1290288	3.99	0.2	1290298	4.39
3/8"	1/2"	0.1	1290289	3.99	0.2	1290299	4.89
1/2"	1/2"	0.2	1290290	4.79	0.4	1290300	5.69
1/2"	5/8"	0.2	1290291	5.79	0.4	1290301	6.69
1/2"	3/4"	—	1290371	15.99	—	1290369	8.49
3/4"	3/4"	0.4	1290292	7.99	0.4	1290302	9.49
3/4"	1"	—	—	—	0.6	1290304	12.99
1"	1"	0.6	1290293	12.49	0.8	1290305	15.99

### JIC FEMALE ELBOWS



Hose I.D.	End Size	90° SWIVEL			45° SWIVEL			90° LONG SWIVEL		
		Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE	Wt. (lbs.)	ITEM	PRICE
1/4"	1/4"	0.1	1290307	9.99	0.1	1290316	9.99	0.1	1290324	9.99
1/4"	5/16"	0.1	1290370	9.99	—	—	—	—	—	—
1/4"	3/8"	0.1	1290308	9.99	0.1	1290317	11.99	—	—	—
3/8"	3/8"	0.2	1290309	9.99	0.2	1290318	9.89	0.2	1290325	9.99
3/8"	1/2"	0.2	1290310	11.49	0.2	1290319	13.49	—	—	—
1/2"	1/2"	0.4	1290312	12.49	0.4	1290320	11.99	0.4	1290326	11.99
1/2"	5/8"	0.4	1290313	16.99	0.6	1290321	16.99	—	—	—
3/4"	3/4"	0.6	1290314	23.99	0.6	1290322	24.39	0.8	1290327	24.99
1"	1"	1.0	1290315	29.99	1.0	1290323	34.99	—	—	—

### TEFLON TAPE

Seals all threaded valve and pipe joints.  
Stands pressures up to 10,000 PSI.



Size	ITEM	PRICE
1/2" x 192"	1250086	0.39
1/2" x 480"	1250620	0.99
3/4" x 384"	1250087	1.29
1" x 780"	1250088	1.99

10 per package.

1253285 – 1/2" x 480" ..... **6<sup>99</sup>**/pkg.

### HYDRAULIC SLIDE RULE



Handy plastic rule for  
calculating force, velocity  
and displacement of hydraulic cylinders.

1252949 – Wt. 0.3 lbs. .... **3<sup>99</sup>**

## NO CRIMP FIXED HOSE FITTINGS



Designed for in-field installation.

Hose I.D.	End size male NPT	For 1-wire thin cover (up to 3,000 PSI)		For 2-wire thin cover (up to 5,000 PSI)	
		ITEM	PRICE (ea.)	ITEM	PRICE (ea.)
1/4"	1/4"	1291442	5.99	1291541	5.99
3/8"	3/8"	1291509	6.59	1291558	6.59
1/2"	1/2"	1291517	7.49	1291574	7.49
3/4"	3/4"	1291525	12.99	1291590	12.99

## NO CRIMP SWIVEL HOSE FITTINGS



Designed for in-field installation.

Hose I.D.	End size female JIC	For 1-wire thin cover (up to 3,000 PSI)		For 2-wire thin cover (up to 5,000 PSI)	
		ITEM	PRICE (ea.)	ITEM	PRICE (ea.)
1/4"	1/4"	1294891	6.59	1294941	6.19
3/8"	3/8"	1294909	6.59	1294958	6.39
1/2"	1/2"	1294917	8.99	1294966	8.79
3/4"	3/4"	1294925	19.99	1294974	16.99

## READY-MADE HYDRAULIC HOSE



Princess Auto also offers hydraulic hose crimping with a wide variety of fittings to fit many applications.



- We carry many sizes of complete hose assemblies for your convenience.
- If we don't have what you require, let us know and we'll custom make exactly what you need.
- All fittings are solid male NPT
- Hose and fittings are the same size (i.e.: 1/4" hose has 1/4" NPT male fittings)

Working Pressure	1/4" 2-Wire 5,000 PSI				3/8" 2-Wire 4,000 PSI				1/2" 2-Wire 3,500 PSI			
Length	Wt. (lbs.)	ITEM	PRICE		Wt. (lbs.)	ITEM	PRICE		Wt. (lbs.)	ITEM	PRICE	
2 ft.	0.6	1290287	7.99		0.8	1290568	8.99		1.4	1290840	10.99	
3 ft.	0.7	1290295	9.99		1.1	1290576	10.99		1.8	1290857	12.99	
4 ft.	0.9	1290303	11.99		1.3	1290584	12.99		2.1	1290865	14.99	
6 ft.	1.2	1290329	15.99		1.8	1290600	16.99		2.7	1290881	18.99	
8 ft.	1.5	1290345	19.99		2.4	1290626	20.99		3.4	1290907	22.99	
10 ft.	1.8	1290360	22.99		2.9	1290642	24.99		4.0	1290923	26.99	
12 ft.	1.6	1290336	25.99		3.4	1290667	28.99		4.3	1290949	30.99	

## HYDRAULIC OIL



A



B



C

### (A) MULTIGRADE HYDRAULIC OIL

- All-season hydraulic oil is designed for hydraulic systems which operate in a wide range of temperatures
- Ideal for logsplitters and other all season equipment
- Not suitable for hydrostatic tractor systems.



4 litre - 8020027 - Wt. 8.1 lbs. .... **9<sup>99</sup>**

10 litre - 6460059 - Wt. 20.0 lbs. .... **22<sup>99</sup>**

### (B) TGH HYDRAULIC OIL

- A multipurpose, extreme pressure, tractor transmission/hydraulic fluid
- Recommended for transmissions, differentials, final drives, hydraulic and power steering systems, as well as wet brakes, PTO and hydrostatic drives.

10 litre - 8019949 - Wt. 20.2 lbs. .... **25<sup>99</sup>**

### (C) ANTI-WEAR HYDRAULIC OIL

- Recommended for high pressure mobile and industrial hydraulic systems where anti-wear hydraulic fluids are specified
- Also provides excellent performance in machine tools, servo controls, metal working equipment and air compressor applications
- Not suitable for hydrostatic tractor systems.

ISO Rating	Pour Point	ITEM	Qty. (litre)	Wt. (lbs.)	PRICE
22 <sup>s</sup>	-34°C	8004474	20.0	40.0	32.99
32	-32°C	6460034	20.0	40.0	32.99
68*	-29°C	6460002	20.0	40.0	32.99

\* For use in higher temperature applications.  
§ Only available during winter months.

# PAL Hydraulics



PAL Hydraulics offers a variety of sizes and styles of hydraulic fittings to complete your installation or project. Size range: 1/8" to 1-1/4".

**Three Thread Types Are:**




- NPT (National Pipe Thread) – Tapered thread, sealant is required for good seal
- ORB (O-Ring Boss) – “O”-ring seals against a machined seat in port
- JIC (37° Flare) – Flare seats against opposite flare in port


## NPT BASIC FITTINGS

										
	TEE		TEE		TEE		90° ELBOW		90° ELBOW	
Thread size	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" NPT	1292978	5.69	1293000	4.69	1292911	4.29	1292788	3.69	1292366	3.69
3/8" NPT	1292986	7.19	1293018	5.49	1292929	6.29	1292796	4.49	1292473	4.29
1/2" NPT	1292994	10.99	1293026	8.69	1292937	9.29	1292804	6.89	1292481	6.29
3/4" NPT	1290066	14.99	1293034	13.99	1290067	14.49	1292812	10.99	1292499	9.29

								
	90° ELBOW		NIPPLE		COUPLER		PLUG	
Thread size	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" NPT	1291764	3.29	1291681	0.99	1292515	2.19	1291608	0.99
3/8" NPT	1291780	4.79	1291715	1.49	1292739	2.69	1291616	1.29
1/2" NPT	1291806	5.49	1291731	1.99	1292754	3.59	1291624	1.59
3/4" NPT	1291822	8.29	1291756	2.89	1292770	4.99	1291632	2.49





## NPT BASIC SWIVEL FITTINGS

						
	90° ELBOW		45° ELBOW		TEE	
Thread size	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" NPT	1293117	4.29	1292218	4.69	1292283	7.29
3/8" NPT	1293125	4.89	1292226	5.29	1293166	7.99
1/2" NPT	1293133	6.29	1292242	5.99	1293174	9.49

<b>BUSHINGS</b>			
<b>MALE x FEMALE</b>			
Thread size (NPT)	ITEM	PRICE	
1/4" x 1/8"	1294701	1.19	
3/8" x 1/4"	1294727	1.29	
3/8" x 1/8"	1294719	1.49	
1/2" x 1/4"	1294735	1.69	
1/2" x 3/8"	1294743	1.79	
3/4" x 3/8"	1294750	2.69	
3/4" x 1/2"	1294784	2.69	
1" x 1/2"	1294768	4.19	
1" x 3/4"	1294776	4.19	

						
	COUPLER		COUPLER		90° ELBOW	
Thread size	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/8" NPT	1291871	1.89	–	–	1290062	NM
1/4" NPT	1291889	1.99	1292036	2.49	1292101	3.49
3/8" NPT	1291913	2.59	1292044	2.99	1292127	5.29
1/2" NPT	1291947	3.69	1292077	3.79	1292150	5.69
3/4" NPT	1291962	5.19	1292085	5.59	1292184	9.29
1" NPT	1291970	8.29	–	–	1292192	15.99

## NPT SIZE ADAPTERS

								
	90° ELBOW		NIPPLE		COUPLER		(F X M) REDUCERS	
Thread size	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" x 1/8" NPT	–	–	1291673	1.69	1292507	3.69	1291830	2.39
3/8" x 1/4" NPT	1291772	4.69	1291707	1.89	1292614	3.79	1291863	3.49
1/2" x 3/8" NPT	1291798	5.79	1291723	2.19	1292747	5.19	1292002	4.49
3/4" x 1/2" NPT	1291814	8.49	1291749	3.49	1292762	6.79	1292028	6.29



## NPT SWIVEL SIZE ADAPTERS

MALE x FEMALE	COUPLERS		90° ELBOW	
	ITEM	PRICE	ITEM	PRICE
Thread size				
1/4" x 1/8"	1294099	2.19	1290064	4.29
1/4" x 3/8"	1291897	2.59	1292119	4.89
3/8" x 1/4"	1291905	2.79	1290065	4.89
3/8" x 1/2"	1291921	3.69	1292135	5.69
1/2" x 3/8"	1291939	4.19	1292143	5.69
1/2" x 3/4"	1291954	5.19	1292168	9.99
3/4" x 1/2"	1294107	6.39	1292176	9.99

## O-RING BOSS SIZING CHART

ORB	Thread dia.	Fitting Threads /inch
#4	7/16"	1/4" 20
#5	1/2"	5/16" 20
#6	9/16"	3/8" 18
#8	3/4"	1/2" 16
#10	7/8"	5/8" 14
#12	1-1/16"	3/4" 12
#14	1-3/16"	7/8" 12
#16	1-5/16"	1" 12
#20	1-5/8"	1-1/4" 12

## O-RING BOSS BASIC FITTINGS

### PLUGS

Thread size	ITEM	PRICE
#4 ORB	1293182	1.39
#5 ORB	1293190	1.59
#6 ORB	1291491	1.69
#8 ORB	1291566	1.99
#10 ORB	1291582	2.49
#12 ORB	1291319	3.49

## O-RING BOSS SIZE ADAPTERS

### MALE x FEMALE

Thread size	ITEM	PRICE
#6 ORB x #4 ORB	8017825	5.99
#6 ORB x #8 ORB	8017861	7.99
#8 ORB x #10 ORB	8017870	7.99
#10 ORB x #8 ORB	8017889	7.99
#12 ORB x #8 ORB	8017898	7.99
#12 ORB x #10 ORB	8017905	8.99
#16 ORB x #12 ORB	8017914	9.99
#20 ORB x #16 ORB	8017932	19.99

## JIC BASIC FITTINGS

Thread size	PLUG		CAP		UNION	
	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" JIC	1293588	0.99	1293844	1.19	1293919	1.19
5/16" JIC	1293596	1.69	1293851	1.29	1293927	1.49
3/8" JIC	1293612	1.79	1293869	0.99	1293935	1.59
1/2" JIC	1293653	1.89	1293877	1.49	1293943	2.29
5/8" JIC	1293737	2.19	1293885	1.99	1293968	2.59
3/4" JIC	1293778	2.79	1293893	2.39	1293976	3.49
1" JIC	1293836	4.29	1293901	4.29	-	-

## JIC 37° TUBE SIZING CHART

JIC	Thread dia.	Threads /inch
1/4"	7/16"	20
3/8"	9/16"	18
1/2"	3/4"	16
5/8"	7/8"	14
3/4"	1-1/16"	12
1"	1-5/16"	12

## THREAD TYPE ADAPTERS

## O-RING BOSS x NPT ADAPTERS

Thread size	MALE X MALE		FEMALE X MALE	
	ITEM	PRICE	ITEM	PRICE
#6 ORB x 1/4" NPT	1293299	3.39	8017692	6.99
#6 ORB x 3/8" NPT	1293307	3.39	8017745	6.99
#6 ORB x 1/2" NPT	-	-	8017754	7.99
#8 ORB x 3/8" NPT	1293315	3.69	8017763	7.99
#8 ORB x 1/2" NPT	1293323	3.69	8017772	7.99
#10 ORB x 1/2" NPT	1293331	4.99	8017781	7.99
#12 ORB x 3/4" NPT	1293513	6.99	8017807	12.99
#16 ORB x 1" NPT	1290226	9.99	-	-
#20 ORB x 1-1/4" NPT	1290227	14.99	-	-



## CYLINDER PORT CONVERTERS

### MALE X FEMALE

Thread size	ITEM	PRICE
#6 ORB x 1/4" NPT	1290346	2.49
#6 ORB x 3/8" NPT	1290347	2.99
#8 ORB x 3/8" NPT	1290348	3.49
#8 ORB x 1/2" NPT	1290349	3.69
#10 ORB x 1/2" NPT	1290350	4.29
#10 ORB x 3/4" NPT	1290351	5.99
#12 ORB x 1/2" NPT	1290353	6.99

## THREAD TYPE ADAPTERS




### JIC 37° TUBE x NPT ADAPTERS

MALE X MALE	90° ELBOW 		COUPLERS 	
	ITEM	PRICE	ITEM	PRICE
1/4" JIC x 1/4" NPT	1294990	2.89	1293422	1.49
5/16" JIC x 1/4" NPT	1295005	3.39	1293430	1.89
3/8" JIC x 3/8" NPT	1295013	3.99	1293448	1.99
3/8" JIC x 1/2" NPT	1294032	4.69	1294024	2.19
1/2" JIC x 1/2" NPT	1295021	4.89	1293455	2.59
5/8" JIC x 1/2" NPT	1295039	5.69	1293463	3.19
3/4" JIC x 3/4" NPT	1295054	7.99	1293489	3.59
1" JIC x 1" NPT	-	-	1293505	5.19

MEMBER OF





### JIC 37° TUBE x O-RING BOSS ADAPTERS


MALE X MALE	COUPLERS 		90° ELBOW 		LONG ELBOW 	
	ITEM	PRICE	ITEM	PRICE	ITEM	PRICE
1/4" JIC x #4 ORB	1294792	1.29	1294842	3.89	-	-
3/8" JIC x #6 ORB	1294800	1.49	1294859	4.69	8017941	6.99
1/2" JIC x #8 ORB	1294818	1.79	1294867	5.99	8017969	9.99
5/8" JIC x #10 ORB	1294826	2.49	1294875	8.29	8017950	13.99
3/4" JIC x #12 ORB	1294834	3.99	1294883	9.99	8017978	19.99

## SWIVEL THREAD TYPE ADAPTERS


### O-RING BOSS x NPT SWIVEL ADAPTERS

MALE X FEMALE	COUPLERS 		90° ELBOW 	
	ITEM	PRICE	ITEM	PRICE
#4 ORB x 1/4" NPT	1292291	3.19	-	-
#5 ORB x 1/4" NPT	1294115	5.69	-	-
#6 ORB x 1/4" NPT	1292309	3.49	-	-
#6 ORB x 3/8" NPT	1292317	3.69	1292416	6.79
#8 ORB x 1/4" NPT	1290068	4.59	-	-
#8 ORB x 3/8" NPT	1292325	4.69	1292424	8.49
#8 ORB x 1/2" NPT	1292333	3.89	1292432	8.49
#10 ORB x 3/8" NPT	1292341	4.89	1292440	8.99
#10 ORB x 1/2" NPT	1290006	4.99	1292457	9.29
#10 ORB x 3/4" NPT	1292358	6.79	-	-
#12 ORB x 3/4" NPT	1294412	6.99	1293273	14.99
#16 ORB x 1" NPT	1295310	10.99	1290224	17.99
#20 ORB x 1-1/4" NPT	1290223	27.99	1290225	37.99

### NPT x JIC 37° TUBE SWIVEL ADAPTERS

MALE X FEMALE 		
Thread Size	ITEM	PRICE
1/4" NPT x 1/4" JIC	1290024	4.69
1/4" NPT x 3/8" JIC	1290025	5.69
3/8" NPT x 3/8" JIC	1290026	5.69
3/8" NPT x 1/2" JIC	1290027	7.29
1/2" NPT x 1/2" JIC	1290028	5.99
1/2" NPT x 5/8" JIC	1290029	7.69
1/2" NPT x 3/4" JIC	1290031	17.99
3/4" NPT x 3/4" JIC	1290032	14.99

### O-RING BOSS x JIC 37° TUBE SWIVEL ADAPTERS

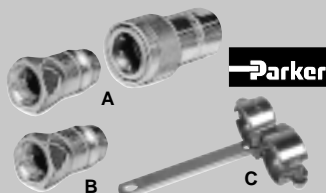
MALE X FEMALE 		
Thread Size	ITEM	PRICE
#4 ORB x 1/4" JIC	1290016	6.59
#6 ORB x 3/8" JIC	1290017	6.59
#8 ORB x 1/2" JIC	1290019	7.49
#10 ORB x 5/8" JIC	1290020	9.49
#12 ORB x 3/4" JIC	1290021	11.99

### TECH TIP

**Is it important to select a flow divider that closely matches pump output?**

Flow dividers have a GPM range that they function most accurately within. It is important that your pump output be within this range or the accuracy of the flow divider decreases.

## QUICK COUPLERS



### (A) PIONEER BREAK AWAY COUPLINGS

- Connects and disconnects quickly creating a positive seal
- Max. pressure: 3,000 PSI

Size	Max. Flow	Wt. (lbs.)	ITEM	PRICE
1/4"	3 GPM	0.3	1292531	24.99
3/8"	6 GPM	0.7	1292556	27.99
1/2"	12 GPM	0.8	1292564	26.99
3/4"	28 GPM	1.0	1292572	39.99

### (B) PIONEER MALE TIPS ONLY

For use with break away couplings.

Size	Max. Flow	Wt. (lbs.)	ITEM	PRICE
1/4"	3 GPM	0.1	1292549	7.49
3/8"	6 GPM	0.2	1292580	9.49
1/2"	12 GPM	0.2	1292598	7.49
1/2"*	12 GPM	0.2	1290354	14.99

### \* poppet style

### (C) DOUBLE BREAKAWAY CLAMP

- For 1/2" or 3/4" breakaway couplings
  - Prevents hose breakage by automatically uncoupling lines when implement is disconnected accidentally
- 1293224 – Wt. 0.8 lbs. .... **16<sup>99</sup>**



### (A) PIONEER BREAK AWAY COUPLING

- Equipped with nut to release pressure in hose
  - 1/2" NPT male and female
  - Max. pressure: 2,500 PSI, max. flow: 12 GPM
- 1292622 – Wt. 0.8 lbs. .... **44<sup>99</sup>**

### (B) PIONEER ONE-HAND BREAK AWAY COUPLER

- Push to connect, pull to separate (under pressure conditions)
  - 1/2" NPT male and female
  - Max. pressure: 3,000 PSI, max. flow: 12 GPM
- 1292630 – Wt. 0.9 lbs. .... **47<sup>99</sup>**

### (C) PIONEER FEMALE X JOHN DEERE MALE ADAPTER

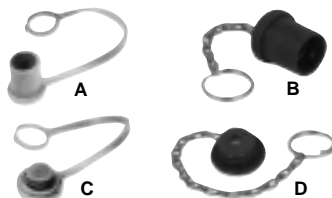
- #4060-4MB. Fits 1/2" Pioneer male coupler.
- 1292648 – Wt. 0.4 lbs. .... **24<sup>99</sup>**



Interchangeable with Pioneer.

Size	Max. pressure (PSI)	GPM @ 15 PSI (ΔP)	Wt. (lbs.)	ITEM	PRICE
A 1/4" body	3,500	2.0	0.3	1290076	8.49
A 3/8" body	3,500	7.0	0.5	1290078	10.99
A 1/2" body	3,000	11.0	0.6	1290080	11.99
A 3/4" body	2,500	20.0	1.1	1290207	22.99
B 1/4" plug	3,500	2.0	0.1	1290075	4.99
B 3/8" plug	3,500	7.0	0.2	1290077	4.99
B 1/2" plug	3,000	11.0	0.1	1290079	5.49
B 3/4" plug	2,500	20.0	0.5	1290208	9.99

## QUICK COUPLER DUST CAPS & PLUGS



**A & B: Dust Caps** for coupler adapter.

**C & D: Dust Plugs** for coupling body.

Size	Material	ITEM	PRICE
A 1/4"	Rubber	1292671	2.99
A 1/2" or 3/4"	Rubber	1292697	3.19
B 3/8"	Chain	1292689	4.99
C 1/4"	Rubber	1292721	2.79
C 1/2" or 3/4"	Rubber	1292705	3.19
D 3/8"	Chain	1292713	4.99

## FLAT FACE HYDRAULIC QUICK COUPLERS



- Used extensively in skid steer loader market
- Less pressure drop through coupler assembly
- Flat face design for minimal spillage during connection and disconnection
- Female body does not have recessed cavity, thus dirt, debris, and oil do not get trapped
- All steel parts are zinc plated and yellow bichromated
- Working temperature: -25° to 125°C (-13 to 257°F)

Size	Max. pressure (PSI)	GPM @ 15 PSI (ΔP)	Wt. (lbs.)	ITEM	PRICE
A 1/4" body	4,500	4.0	0.3	1290081	26.99
A 3/8" body	4,500	9.0	0.6	1290083	29.99
A 1/2" body	4,000	9.0	0.6	1290087	29.99
A 3/4" body	3,500	14.0	1.0	1290085	49.99
B 1/4" plug	4,500	4.0	0.6	1290082	13.99
B 3/8" plug	4,500	9.0	0.4	1290084	13.99
B 1/2" plug	4,000	9.0	0.4	1290088	13.99
B 3/4" plug	3,500	14.0	0.6	1290086	24.99

## OIL RESERVOIRS

### (A) RESERVOIRS

- 12 gauge steel construction
- Sturdy, general purpose hydraulic oil reservoirs cleaned and tested for leak-free performance
- Comes clean with sealed ports and drilled mounting holes

Capacity	Ports (NPT) In x Out	O'all dim. H x L x W	Wt. (lbs.)	ITEM	PRICE
3 Gal.	1-1/4" x 3/4"	9" x 14-1/2" x 12"	13.0	<b>1250040</b>	<b>89.99</b>
5 Gal.	1-1/4" x 1-1/4"	11" x 18-1/2" x 12"	27.6	<b>1250041</b>	<b>99.99</b>
10 Gal.	1-1/4" x 1-1/4"	14-1/2" x 18-1/2" x 16"	32.0	<b>1250043</b>	<b>139.99</b>



A

### TECH TIP

The reservoir is often an overlooked component within a hydraulic system, but it provides a critical role within the complete hydraulic circuit. It has 4 main functions:

- 1) To prime the pump
- 2) To release contaminants (air, small particles)
- 3) Cooling
- 4) Oil storage

### (A) 10 GALLON RESERVOIR WITH BAFFLE

- 12 gauge steel construction
- Interior baffle between suction and discharge sides of tank
- Interior coated with rust preventative oil
- 4 ports
  - two 1-1/4" NPT inlet/outlet ports
  - one 3/4" NPT bottom drain port
  - one 3/8" NPT port for pumps or motors that have a case drain
- O'all dim.: 16"h x 14-1/2"l x 18-1/2"w

**1250113** – Wt. 40.0 lbs. **169<sup>99</sup>**

### (B) RESERVOIR WITH BAFFLE

- 12 gauge steel construction
- Interior baffle between suction and discharge sides of tank
- 1/4 turn chrome breather/filler cap with 15 micron strainer basket
- Temperature/level gauge
- Interior coated with rust preventative oil
- 5 ports
  - two 2" NPT suction ports
  - one 1-1/4" NPT top mounted return port with steel down tube to prevent aeration
  - one 3/8" NPT port for pumps that have a case drain
  - one 3/4" NPT bottom drain port

Capacity	O'all dim. H x L x W	Wt. (lbs.)	ITEM	PRICE
15 imp. gal.	21" x 18-1/2" x 17"	66.0	<b>1250096</b>	<b>229.99</b>
25 imp. gal.	21" x 26-1/2" x 17"	88.0	<b>1250097</b>	<b>299.99</b>

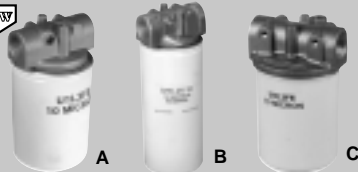


B

## HYDRAULIC FILTERS

One of the most important components to consider in any hydraulic system is the hydraulic filter. Dirt is the number one killer of hydraulic components. The smallest microscopic dirt particles can score valves, seize pumps and cause expensive repair jobs. When making your purchase, match the filter to 1-1/2 times the system flow. Hydraulic filters are always worth the investment!

**NEW**



### (A) IN-LINE, SPIN-ON TYPE FILTERS –

5 GPM max. on suction line, 15 GPM max. on return line, 15 PSI built-in bypass valve. Comes with 10 micron throw away element. Compatible with all petroleum base fluids. 3/4" inlet and outlet ports. Two 1/8" NPT gauge ports.

**1250022** – Wt. 2.0 lbs. **24<sup>99</sup>**

### REPLACEMENT ELEMENTS

Wt. 1.2 lbs.

**1250315** – 10 Micron.

**1250323** – 33 Micron. **12.99**

(B) **OIL FILTER** – 5 GPM max. on suction line, 20 GPM max. on return line. 25 PSI built-in by-pass. 1" NPT inlet and outlet ports.

**1250448** – Wt. 2.5 lbs. **49<sup>99</sup>**

**REPLACEMENT ELEMENT** – 10 Micron.

**1250331** – Wt. 1.5 lbs. **24.99**

(C) **OIL FILTER** – 1-1/4" NPT ports. 12 GPM max. on suction line, 45 GPM max. on return line. 150 PSI working pressure. 10 Micron filter element. Four 1/8" NPT gauge ports and a 15 PSI bypass.

**1250027** – Wt. 3.9 lbs. **44<sup>99</sup>**

**REPLACEMENT ELEMENT** – 10 Micron.

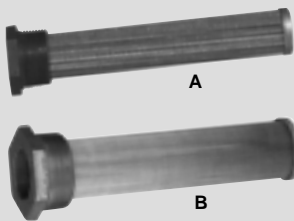
**1250025** – Wt. 1.8 lbs. **19.99**

**0-30 PSI FILTER GAUGE** – 1/8" NPT.

Can be used with Item (A) and (C)

**1250038** – Wt. 0.7 lbs. **9<sup>99</sup>**

## SUCTION and RETURN LINE STRAINERS



- Prevent fine particles from entering and damaging the hydraulic pump or system
- Made with #100 mesh stainless steel wire cloth elements, in pleated construction
- Equipped with a bypass relief valve

### (A) SUCTION TYPE 10 GPM RATING

- 6.8" length with 70 sq. in. screen area
- 1-1/4" NPT tank mounting
- 3/4" NPT line connection

**1251602** – Wt. 0.5 lbs. .... **29<sup>99</sup>**

### (A) SUCTION TYPE 15 GPM RATING

- 8" length with 70 sq. in. screen area
- 1-1/2" NPT tank mounting
- 1" NPT line connection

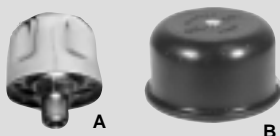
**1250095** – Wt. 0.6 lbs. .... **29<sup>99</sup>**

### (B) SUCTION TYPE 25 GPM RATING

- 9" o"all length with 125 sq. in. screen area
- 2" NPT tank mounting
- 1-1/4" NPT line connection

**1251610** – Wt. 1.5 lbs. .... **32<sup>99</sup>**

## BREATHERS



Breather filters are a must for hydraulic systems ensuring clean air passing into the reservoir thus prolonging the life of the systems components.

### (A) 40 MICRON RATED FILTER

10 CFM airflow capacity.

Port size	Wt. (lbs.)	ITEM	PRICE
1/4" NPT	0.4	<b>1251669</b>	<b>8.99</b>
3/8" NPT	0.4	<b>1250090</b>	<b>8.99</b>
1/2" NPT	0.4	<b>1250092</b>	<b>12.99</b>
3/4" NPT	0.4	<b>1250093</b>	<b>15.99</b>
1" NPT	0.7	<b>1250094</b>	<b>21.99</b>

### (B) SLIP-ON BREATHER CAP

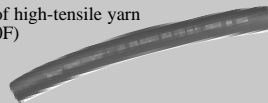
Fits 1-1/2" O.D. pipe.

**1252923** – Wt. 0.1 lbs. .... **6<sup>99</sup>**

## SUCTION HOSE

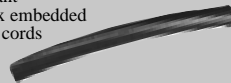
- Use to connect your hydraulic pump to your reservoir
- Can also be used for other petroleum based applications
- Resistant to vacuum induced collapse which can result in pump cavitation
- Two styles available

- The hose cover is made of abrasion and weather resistant neoprene rubber
- Reinforced with four spirals of high-tensile yarn
- Temperature range: -40C (-40F) to 95C (203F)
- Not to be used for suctioning applications over 6 ft.



Hose ID	Hose OD	Max. Continuous Pressure (PSI)	Max. Flow (GPM)	Wt. (lbs.)	ITEM	PRICE /FT.
3/4"	1.16"	250	7	0.4	<b>8017996</b>	<b>2.99</b>
1"	1.44"	250	12	0.5	<b>8018030</b>	<b>3.99</b>
1-1/4"	1.78	250	19	0.6	<b>8018076</b>	<b>6.99</b>

- The hose cover is a neoprene rubber with a black wrapped finish that is abrasion and weather resistant
- Reinforced with a heavy wire helix embedded between layers of synthetic textile cords
- Temperature range: -40C (-40F) to 110C (230F)



Hose ID	Hose OD	Max. Continuous Pressure (PSI)	Max. Flow (GPM)	Wt. (lbs.)	ITEM	PRICE /FT.
1-1/2"	1.97"	150	27	0.8	<b>8017987</b>	<b>7.99</b>

## T-BOLT HOSE CLAMPS

- Stainless steel band and bridge, plated steel bolt, trunnion and nut
- Provides dynamic sealing to suction hoses preventing air and other contaminants from entering the system
- Prevents the leakage of fluid from pressure hoses
- Improved sealing compared to standard screw clamps

Hose ID	Range	Wt. (lbs.)	ITEM	PRICE
3/4"	1.14"-1.22"	0.1	<b>8023925</b>	<b>3.99</b>
1"	1.31"-1.56"	0.1	<b>8016951</b>	<b>5.99</b>
1-1/4"	1.56"-1.81"	0.1	<b>8016997</b>	<b>5.99</b>
1-1/2"	1.81"-2.06"	0.1	<b>8017004</b>	<b>6.49</b>
2"	2.06"-2.31"	0.1	<b>8017013</b>	<b>6.49</b>
2-1/4"	2.56"-2.87"	0.2	<b>8017040</b>	<b>6.99</b>

## STEEL HOSE BARBS

Steel construction to prevent oil contamination and provide superior fitting strength



	Hose ID	Fitting size	Wt. (lbs.)	ITEM	PRICE
A	3/4"	#12 ORB	0.3	<b>8023934</b>	<b>8.99</b>
A	1"	#16 ORB	0.5	<b>8023943</b>	<b>19.99</b>
B	3/4"	#3/4" NPT	0.3	<b>8023952</b>	<b>3.99</b>
B	1"	#1" NPT	0.6	<b>8023961</b>	<b>7.99</b>
B	1-1/4"	#1-1/4" NPT	0.9	<b>8023989</b>	<b>17.99</b>
B	1-1/2"	#1-1/2" NPT	1.4	<b>8023998</b>	<b>24.99</b>

## FILLER/STRAINER BREATHER CAP ASSEMBLY

- 40 micron chrome filler/breather cap is attached with a chain and can be taken off by twisting a 1/4 turn
- 15 micron strainer basket catches debris while filling
- Comes with mounting flange with two gaskets and six self-tapping screws



**1250101** – Wt. 0.9 lbs. **22<sup>99</sup>**

## CYLINDER BREATHERS

- Applications include vacuum relief for pressure equalization on gear boxes, oil tanks and hydraulic cylinders
- Just a drop of oil on the screen after installation will keep dust and dirt from entering your system
- 7/8" hex head

Wt. 0.5 lbs.

**1291665** – 3/8" NPT

**1291699** – 1/2" NPT

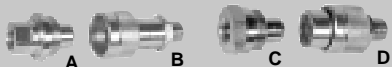
**1290343** – #6 ORB

**1290344** – #8 ORB **6<sup>99</sup>/ea.**



## HIGH PRESSURE SCREW TYPE QUICK COUPLERS

- 10,000 PSI Max working pressure
- NBR seals –25 to 120°C (-13 to 248°F)
- Can be disconnected under pressure
- Compatible with Mega Power Packs and cylinders
- Made in Italy



	Size (NPT)	Wt. (lbs.)	ITEM	PRICE
A	1/4" Male*	0.1	<b>1290373</b>	<b>6.99</b>
B	1/4" Female*	0.3	<b>1290372</b>	<b>10.99</b>
C	3/8" Male**	0.3	<b>1290375</b>	<b>6.99</b>
D	3/8" Female**	0.2	<b>1290374</b>	<b>12.99</b>

\* 20 PSI pressure drop @ 2.5 GPM

\*\* 20 PSI pressure drop @ 4 GPM

## MAGNETIC PLUGS

*Libbe*

- Square head design
- Used to protect hydraulic systems by magnetically collecting ferrous particles



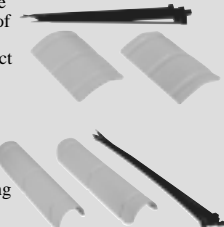
Size (NPT)	Wt. (lbs.)	ITEM	PRICE
3/8"	0.1	<b>1293661</b>	<b>1.59</b>
1/2"	0.1	<b>1293679</b>	<b>1.59</b>
3/4"	0.2	<b>1293687</b>	<b>2.09</b>
1"	0.4	<b>1293695</b>	<b>4.99</b>
1-1/4"	0.5	<b>1293703</b>	<b>4.99</b>

## HOSE PROTECTION AND MAINTENANCE PRODUCTS



### HOSE PROTECTORS

- Easily attached to almost any size or type of hose preventing up to 90% of all hose failure due to wear at points of contact
- Extremely high wear factor
- Formulated to resist solvents, oils, grease, gasoline, etc.
- Grooves protect cable ties and prevent slipping
- Operating temperature range –40 to 430 F



Length and Color	Package Qty	Wt. (lbs.)	Item	Price
4" Black	4	0.1	<b>8019182</b>	<b>16.99</b>
4" Yellow	4	0.1	<b>8019253</b>	<b>16.99</b>
8" Black	4	0.6	<b>8019262</b>	<b>19.99</b>
8" Yellow	4	0.6	<b>8019271</b>	<b>19.99</b>
Mixed Sizes Black	60	7.0	<b>8019280</b>	<b>249.99</b>

### HOSE SPACERS

- Helps prevent damage from unrestrained hoses
- Helps keep hoses organized
- Prevents hose abrasion at points of contact
- Constructed using an impact resistant material which gives it high strength, abrasion and chemical resistance within a wide range of operating conditions



Hose Size	Package Qty	Wt. (lbs.)	Item	Price
5/8"	4	0.1	<b>8019351</b>	<b>11.99</b>
3/4"	4	0.1	<b>8019360</b>	<b>12.99</b>
1"	4	0.1	<b>8019379</b>	<b>14.99</b>
1-1/8"	4	0.1	<b>8019388</b>	<b>16.99</b>
1-3/8"	4	0.1	<b>8019404</b>	<b>18.99</b>

### HOSE LOOMS

- Prevents hose abrasion at points of contact
- Keeps multiple hoses organized and simplifies routing
- Prevents damage from unrestrained hoses
- Constructed using an impact resistant material which gives it high strength, abrasion and chemical resistance within a wide range of operating conditions



Number of Hoses	Hose size	Package Qty.	Wt. (lbs.)	Item	Price
4	3/4"	2	0.1	<b>8019299</b>	<b>9.99</b>
4	1"	2	0.2	<b>8019306</b>	<b>12.99</b>
4	1-1/8"	2	0.2	<b>8019315</b>	<b>14.99</b>
4	1-3/8"	2	0.4	<b>8019324</b>	<b>16.99</b>



THE UNIQUE WORLD OF

**PRINCESS AUTO**

**TEAM MEMBERS ON THE MOVE**

The following Team Members have changed their positions within our organization since January 2002.

NAME	FROM	TO	MONTH
LaFontaine, Serge	Team Leader Trainee (Ottawa)	Assistant Team Leader (Ottawa)	JAN
Einarsson, Erik	Team Member (Ottawa)	Team Leader Trainee (Ottawa)	JAN
Ash, Michael	Team Member (Saskatoon)	Retail Specialist (Panet)	JAN
Potter, Tom	Night Receiving (Hamilton)	Night Receiving Leader (Hamilton)	JAN
Barnes, Nigel	Night Receiver (Barrie)	Night Receiving Leader (Barrie)	JAN
Clark , Bruce	Night Receiver (Red Deer)	Night Receiving Leader (Red Deer)	FEB
Crawford, Douglas	Asst. Team Leader (Red Deer)	Asst. Team Leader (Ottawa)	FEB
Golding, Stephen	Team Leader Trainee (Red Deer)	Assistant Team Leader (Red Deer)	FEB
Allison, Shana	Team Member (Red Deer)	Team Leader Trainee (Red Deer)	FEB
Klein, Brad	Warehouse Worker	Structural Assembler	FEB
Grant, Misty	Team Member (Calgary)	Team Leader Trainee (Calgary)	FEB
Goodbody, Doug	Interim Team Leader (London)	Team Leader (London)	FEB
King, Paul	Team Member (London)	Team Leader Trainee (London)	FEB
Zammit, Kim	Team Member (London)	Team Leader Trainee (London)	FEB
McAuley, John	Team Leader Trainee (Mississauga)	Asst. Team Leader (Mississauga)	FEB
Kydd, Joyce	Shipper (Grande Prairie)	Team Leader Trainee (Grande Prairie)	MAR
Fitzmauice, Ron	Warehouse Worker	D.C. Team Leader Trainee	MAR
Odaisky, Bonnie	Help Center	Team Development Coordinator	MAR
Strand, Carlene	Team Leader (Lethbridge)	Operations Leader (Panet)	MAR
Gauthier, Rich	Asst. Team Leader (Langley)	Team Leader (Langley)	MAR
Meadows, Jackson	Team Leader (Langley)	Team Leader (Lethbridge)	MAR
Rintoul, David	Asst. Team Leader (Panet)	Rental Category Leader (Panet)	MAR
Westervelt, Mike	Interim Team Leader (Grande Prairie)	Team Leader (Grande Prairie)	MAR
Bregman, Danny	Training - Team Development	Night Shift Leader - Manufacturing	APR
Theyson, Peter	Team Member (Ottawa)	Night Receiving Leader (Ottawa)	APR
Barr, Brad	Night Receiving Leader (Ottawa)	Team Leader Trainee (Ottawa)	APR
Bulsara, Naresh	Production Control Process Planner	Quality Assurance	APR
McKechnie, Cory	Night Receiver (Regina)	Night Receiving Leader (Regina)	APR
Bryan, Jennifer	Team Leader Trainee (Moncton)	Night Receiving Trainee	APR
Leach, Brett	Team Member (Panet)	Retail Category Leader of Air/Welding	APR
Cardenas, Andre	Night Receiving Leader (Langley)	Team Leader Trainee (Langley)	APR
Mosiuk, Sharon	Team Leader Trainee (Brandon)	Night Receiver Assistant (Brandon)	APR
Heckhavs, Connie	Team Member (Barrie)	Team Leader Trainee (Barrie)	APR
Thomas, Burke	Team Member (Portage)	Team Leader Trainee (Portage)	MAY
Howarth, Ryne	Assistant Team Leader (Kelowna)	Team Leader (Kelowna)	MAY
Lee, Steven	Night Receiver (London)	Night Receiving Leader (London)	MAY
Low, Jackson	Team Leader Trainee (Regina)	Night Receiving Leader (Brandon)	MAY
Spence, Lori-Anne	Cashier (Hamilton)	Team Leader Trainee (Hamilton)	MAY
Fisher, Rob	Sales Team Member (London)	Night Receiving TM (Londong)	MAY

# NEED A CATALOGUE or GETTING TOO MANY?



**To receive** our 400-page catalogue and our monthly promotions, please do one of the following:

- 1) Place an order through our National Call Centre at **1-800-665-8685**; or
- 2) Fill out a catalogue request form the next time you are shopping at any one of our 20 retail stores across Canada; or
- 3) Fill in the "Add" box (below) and send it to:

**PRINCESS AUTO LTD., Box 1005, Winnipeg, MB, R3C 2W7**  
or FAX us at **(204) 663-7663**. Please include all information.

Please update your name every six months to remain on our mailing list.

**ALL MAILING LIST INFORMATION IS KEPT STRICTLY CONFIDENTIAL.**

**To correct** duplicate mailings caused by incorrect address and/or spelling, fill out the "Remove" box (below) and forward it to us using one of the above methods. Be sure to include the Customer ID Number

By removing incorrect addresses, we ensure that as many customers as possible have the opportunity to receive our flyers and catalogues.

999999



P AUTO

475 PANET ROAD  
WINNIPEG, MB

R2C 3W7

## PLEASE PRINT CLEARLY

A241

Company Name (if applicable)

Surname

First Initial

( ) -

Telephone Number

Email address

Street Address

R.R. Number, Box Number, etc.

-

City/Town and Province

Postal Code

I use Princess Auto products mostly for: ☐ Farm ☐ Business ☐ Home

In the future, would you prefer to receive our promotional materials in ☐ French or ☐ English?

(Sorry, our large catalogue is only available in ENGLISH.)

## PLEASE PRINT CLEARLY

R241

Company Name (if applicable)

Surname

First Initial

( ) -

Telephone Number

-

Customer ID Number

(from top right corner of mailing label)

Street Address

R.R. Number, Box Number, etc.

-

City/Town and Province

Postal Code





THE UNIQUE WORLD OF

**PRINCESS AUTO**

# ORDER FORM

**WINNIPEG MAIL ORDER:**Phone Toll Free: **1-800-665-8685**Fax Toll Free: **1-800-265-4212**Mailing Address: **P.O. BOX 1005, WINNIPEG, MB. R3C 2W7**Shop Online: **www.princessauto.com**

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DATE: MM DD YY

PLEASE PRINT CLEARLY

Company Name (if applicable)

Surname

First Initial

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Telephone Number

Email address:

Street Address

R.R. Number, Box Number, etc.

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City/Town and Province

Postal Code

I use Princess Auto products mostly for ☐ Farm ☐ Business ☐ HomeIn the future, would you prefer to receive our promotional materials in ☐ French or ☐ English?

PRICES ARE SUBJECT TO CHANGE

Qty.	ITEM #	Page #	DESCRIPTION	WEIGHT	PRICE (ea.)

SUB-TOTAL

**PLEASE CHECK ONE:**☐ ECONOMY SERVICE☐ EXPRESS SERVICE

See pg. 448 for full details

ADD SHIPPING and  
PROCESSING FEES

SUB-TOTAL

ADD PROVINCIAL SALES TAX (if applicable)  
BC 7.5% , MB 7% , SK 6% , ON 8% ,ADD 7% G.S.T. to all charges except P.S.T.  
in PE, PQ, ON, MB, SK, AB, BC, YT, & NT.

ADD 15% H.S.T. in NF, NS, NB

GRAND  
TOTAL

We no longer accept C.O.D. as a method of payment.

METHOD OF PAYMENT:

☐ Cheque☐ Money Order

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Card Expiration Date

Shop Online: [www.princessauto.com](http://www.princessauto.com)

# NATIONAL SHIPPING AND PROCESSING PROGRAM

This program allows you to place an order at any of our 21 locations and use our new unified freight costing system.

To order, simply:

- Select the items you wish to order
- Choose the type of service you prefer, Economy or Express
- Contact the location you wish to have your order shipped from

It's as easy as that.

## T h e P R O G R A M S

### *Economy Service Program:*

- Delivery Standard is **3 to 7** business days
- Minimum Processing Fee of **\$3.00** per order plus **0.40¢** per pound anywhere in Canada excluding Air Stage Points\*

### *Express Service Program:*

- Delivery Standard is **2 to 3** business days
- Minimum Processing Fee of **\$3.00** per order plus **0.70¢** per pound anywhere in Canada excluding Air Stage Points\*

\* Princess Auto reserves the right to choose the shipping carrier.

\* Orders shipped by carriers outside of our program, are subject to a minimum **\$5.00** processing fee and will be sent freight collect.

\* Air Stage customers are subject to a special quote, please call toll free: **1-800-665-8685**

## Method of Payment:

When ordering by phone, mail or fax we accept:

**We no longer accept C.O.D. as a method of payment.**

**CREDIT CARDS:** Visa and Mastercard

**CHEQUES:** Send your personal or business cheque payable to Princess Auto

**MONEY ORDERS:** Send a Bank, Credit Union or Postal Money Order

### **CHARGE ACCOUNTS:**

To open a Princess Auto 30-Day Business or Institutional Charge Account, contact our Credit Department in Winnipeg at (204) 667-4630 or the Princess Auto Store nearest store you

## Pricing:

It is Princess Auto's objective to maintain prices for the life of the catalogue to the best of our ability. However, due to changing market conditions beyond our control, prices are subject to change without notice. Catalogue prices do not include P.S.T., G.S.T. or H.S.T.



Phone Winnipeg Toll Free:

**1-800-665-8685**

Toll Free Fax: 1-800-265-4212



20 stores across Canada

[www.princessauto.com](http://www.princessauto.com)



See pg. 449 for locations

# STORE LOCATIONS

## NOVA SCOTIA

**DARTMOUTH** (Burnside Park)  
81 Wright Ave. B3B 1H4  
Ph: (902) 468-8396  
Fax: (902) 468-7842  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, **Closed**  
DEMO CENTRE:  
"try it before you buy it"

## NEW BRUNSWICK

**MONCTON**  
1380 Mountain Rd., E1C 2T8  
Ph: (506) 388-4400  
Fax (506) 388-4404  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 1:00 p.m. - 5:00 p.m.  
"try it before you buy it"

## ONTARIO

**OTTAWA**  
1301 Ages Dr.  
(at Hawthorne Rd.), K1G 6N1  
Ph: (613) 247-1651  
Fax: (613) 247-1657  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 9:00 a.m. - 5:00 p.m.

**MISSISSAUGA**  
6608 Dixie Road L5T 2Z9  
Ph: (905) 564-1011  
Fax: (905) 564-8023  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 11:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**KITCHENER**  
1373 Victoria St. N., N2B 3R6  
Ph: (519) 743-0742  
Fax: (519) 743-0033  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 10:00 a.m. - 5:00 p.m.

**HAMILTON**  
244 Lake Ave. N. (at Barton),  
L8E 3A2  
Ph: (905) 561-9400  
Fax: (905) 561-7233  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 9:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**LONDON**  
309 Exeter Rd., N6L 1C1  
Ph: (519) 652-2193  
Fax: (519) 652-0259  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 9:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**BARRIE**  
11 Commerce Park Dr., L4N 8X1  
Ph: (705) 739-0575  
Fax: (705) 739-7362  
Mon. to Fri., 8:00 a.m. - 9:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 9:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

## MANITOBA

**WINNIPEG** (Mail Order)  
Mailing Address  
Box 1005, Wpg., MB., R3C 2W7  
Ph: 1-800-665-8685  
Fax: 1-800-265-4212  
Mon. to Fri., 8:00 a.m. - 6:30 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.

**WINNIPEG** (Panet Road)  
465 Panet Rd., R2C 2Z1  
Ph: (204) 669-4252  
Fax: (204) 669-4269  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 12:00 p.m. - 5:00 p.m.  
DEMO CENTRE:  
"Try it before you buy it"

**WINNIPEG** (Portage Ave.)  
3421 Portage Ave. W. (at Cavalier),  
R3K 2C9  
Ph: (204) 831-8275  
Fax: (204) 831-0238  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 12:00 p.m. - 5:00 p.m.

**BRANDON**  
1800-18th Street N., R7C 1A5  
Ph: (204) 726-0601  
Fax: (204) 729-9256  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 12:00 p.m. - 5:00 p.m.

## SASKATCHEWAN

**REGINA**  
2770 Victoria Ave. E., S4N 6M5  
Ph: (306) 721-5115  
Fax: (306) 721-2696  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 10:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**SASKATOON**  
610 Cynthia St., S7L 6A2  
Ph: (306) 665-8022  
Fax: (306) 664-9554  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 10:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

## ALBERTA

**EDMONTON**  
11260-163rd. St. NW, T5M 3R5  
Ph: (780) 483-0244  
Fax: (780) 484-7080  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 11:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**CALGARY**  
2020-32nd Ave., N.E., T2E 6T4  
Ph: (403) 250-1133  
Fax: (403) 291-2781  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 11:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**LETHBRIDGE**  
3018-2nd Ave. N., T1H 0C6  
Ph: (403) 327-7300  
Fax: (403) 327-1871  
Mon. & Tues., 8:00 a.m. - 6:00 p.m.  
Wed. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 12:00 p.m. - 5:00 p.m.

**RED DEER**  
7419-15th Ave. (Gaetz Ave.),  
T4P 1M5  
Ph: (403) 342-6181  
Fax: (403) 346-6855  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 11:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

**GRANDE PRAIRIE**  
13601-100th St., T8V 4H4  
Ph: (780) 539-1550  
Fax: (780) 532-2757  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 12:00 p.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"

## BRITISH COLUMBIA

**KELOWNA**  
1920 Spall Road, V1Y 4R1  
Ph: (250) 860-6191  
Fax: (250) 861-8372  
Mon. to Fri., 8:00 a.m. - 8:00 p.m.  
Saturday, 8:00 a.m. - 5:00 p.m.  
Sunday, 9:00 a.m. - 5:00 p.m.

**LANGLEY**  
19878 Langley Bypass  
(in Langley Square), V3A 4Y1  
Ph: (604) 534-9554  
Fax: (604) 534-1163  
Mon. to Fri. 8:00 a.m. - 8:00 p.m.  
Saturday, 9:00 a.m. - 5:00 p.m.  
Sunday, 10:00 a.m. - 5:00 p.m.  
DEMO CENTRE:  
"try it before you buy it"