



# Parker PAR-CHECK

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## Series HC, DC, DA

Self Contained Hydraulic Units  
for Precision Control of  
Machine or Air Movement



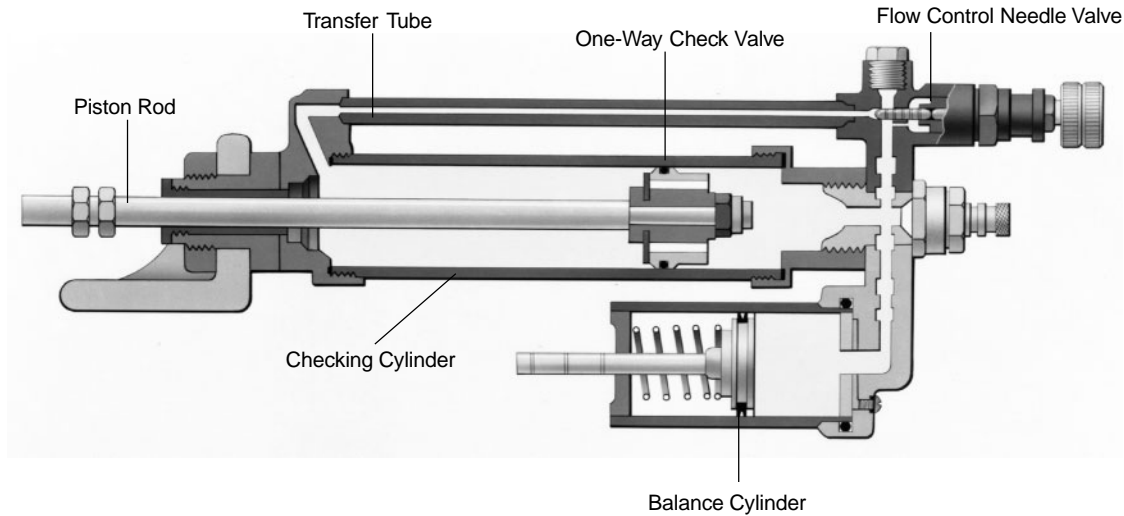
**The Parker Par-Check.  
The control of hydraulics,  
without the high cost.**

For Cylinder Division Plant Locations – See Page II.

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## How A Par-Check Works



The Par-Check consists of an oil filled cylinder, a piston rod, an adjustable needle valve and a balance cylinder. The balance cylinder compensates for oil displaced or required during stroke of unit.

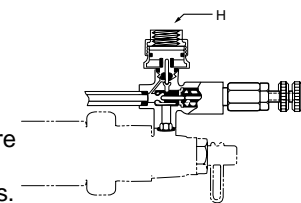
When a load is applied to the piston rod, hydraulic fluid is forced through the transfer tube and the needle valve into the opposite end of the unit.

The needle valve controls the rate of flow of fluid through this closed-loop circuit. Thus, the action of the attached air cylinder piston is completely controlled. Chatter and flutter are eliminated. And the Par-Check compensates for any variation in the power stroke.

Par-Checks may be specified to check the action on advance or retract strokes or both strokes. On the return stroke of a single-acting model, a one-way valve built into the piston permits the oil to flow freely through it, thus not restricting quick return.

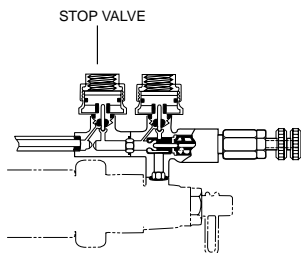
### SKIP CHECKING

The Skip Valve mounts on the needle valve body. With Skip Valve open, fluid bypasses the needle valve and no checking action occurs. Applying air pressure to port (H) closes the Skip Valve and normal checking action occurs.



### STOP CHECKING

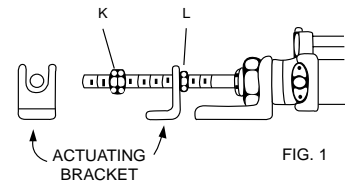
The Stop Valve mounts in front of the needle valve body. Closing the Stop Valve, (applying air pressure to it) interrupts the flow of hydraulic oil and stops the piston rod of the Par-Check until the Stop Valve is released (air pressure removed).



### ADJUSTABLE RAPID TRAVERSE

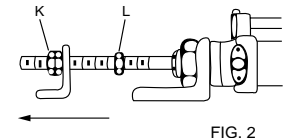
The basic Par-Check, without the use of additional control, may be installed to permit rapid traverse over any portion of the checking stroke. The point at which checking action begins may be changed quickly and easily. The illustrations below show how such installations are made.

**FIG. 1** – The Par-Check is mounted to a frame or other non-moving member of the machine to be controlled. An actuating bracket, drilled or slotted to clear Par-Check piston rod, is mounted between moving machine element and Par-Check piston rod, as shown.

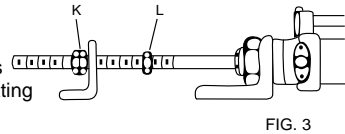


**FULLY RETRACTED POSITION**  
actuating bracket against nut (L).

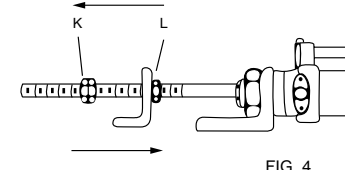
**FIG. 2**—Advancing from position shown in Fig. 1, actuating bracket does not cause Par-Check piston rod to move until it contacts forward piston rod nuts (K). Length of rapid traverse adjusts as desired by moving these nuts forward or back.



**FIG. 3** – FULLY ADVANCED POSITION – Par-Check has controlled the machine element's action from the instant the actuating bracket began to advance the piston rod, by engaging nuts (K), until forward movement ends.



**FIG. 4** – RETRACT STROKE – No checking action occurs on single acting units. Retracting actuating bracket engages nut (L), returning piston rod to fully retracted position of Fig. 1.



**NOTE:** In many cases it is desirable to connect Par-Check piston rod directly to controlled machine element. In such cases, checking action occurs throughout the advance stroke. Addition of a **Skip Valve** permits full control of rapid traverse.

For additional information – call your local Parker Cylinder Distributor.

# How To Order Standard Par-Checks

Par-Checks are ordered according to type of mounting, valve arrangement, and stroke length.

## How To Order Series HC Par-Checks

Par-Check Series HC Single Acting 1<sup>3</sup>/<sub>8</sub>" Bore

0138	T	HC	Mod.	01*	2.00
Bore	Mount	Series		Valve Option	Stroke
Does not change.	T = Nose D = Pivot		Leave blank for parallel mount with cylinder or stand-alone.	01 = Forward Acting 02 = Reverse Acting.	Standard Strokes 2.00 4.00 6.00 9.00 12.00 15.00 18.00
Note: (1) Only one Par-Check bore size. (2) Only one rod size. (3) All seals are standard. (4) Ports not applicable.			If stroke is non-standard, specify in inches. For stroke lengths over 18", contact your local Parker distributor or Parker Field Representative.		

## How To Order Series DC Par-Checks

Par-Check Series DC Single Acting 1<sup>5</sup>/<sub>8</sub>" Bore

0162	T	DC	A	01*	2.00
Bore	Mount	Series	Mod.	Valve Option	Stroke
Does not change.	Leave blank for inline mount. T = Nose C = Foot D = Pivot		Leave blank for parallel mount or stand-alone.  A = Inline Mount	01 = Standard Valve, Forward-Acting 02 = Standard Valve, Reverse-Acting 05 = Skip Valve, Forward-Acting 06 = Skip Valve, Reverse-Acting 09 = Stop Valve, Forward-Acting 10 = Stop Valve, Reverse-Acting 11 = Stop & Skip Valve, Forward-Acting 12 = Stop & Skip Valve, Reverse-Acting 13 = Precision Valve, Forward-Acting 14 = Precision Valve, Reverse-Acting 15 = Precision Valve with Skip, Forward-Acting 16 = Precision Valve with Skip, Reverse-Acting 17 = Precision Valve with Stop, Forward-Acting 18 = Precision Valve with Stop, Reverse-Acting 19 = Precision Valve with Stop & Skip, Forward-Acting 20 = Precision Valve with Stop & Skip, Reverse-Acting	Standard Strokes 2.00 4.00 6.00 9.00 12.00 15.00 18.00
Note: (1) Only one Par-Check bore size. (2) Only one rod size. (3) All seals are standard (Code 1). (4) Ports not applicable. *Specify voltage.			If stroke is non-standard, specify in inches. For stroke lengths over 18", contact your local Parker distributor or Parker Field Representative.		

**NOTE:** Caution should be used when specifying reverse acting or double acting Par-Checks. Long stroke reverse acting Par-Check piston rods may be subject to buckling if excessive load is applied in some applications. Check with your Parker Fluidpower Sales Representative for maximum recommended reverse acting Par-Check stroke lengths.

## How To Order Series DA Par-Checks

Par-Check Series DC Single Acting 1<sup>5</sup>/<sub>8</sub>" Bore

0162	T	DA	A	01*	2.00
Bore	Mount	Series	Mod.	Valve Option	Stroke
Does not change.	Leave blank for inline mount. T = Nose C = Foot D = Pivot		Leave blank for parallel mount or stand alone. A = Inline Mount	See chart below for valve options.	Standard Strokes 2.00 4.00 6.00 9.00 12.00 15.00 18.00
Note: (1) Only one Par-Check bore size. (2) Only one rod size. *Specify voltage.			(3) All seals are standard (Code 1). (4) Ports not applicable.		

### Valve Options

Advance Stroke	Reverse Stroke	Advance Stroke	Reverse Stroke	Advance Stroke	Reverse Stroke
01 = Standard Valve 03 = Skip Valve 05 = Stop Valve 06 = Stop/Skip 13 = Standard Valve 15 = Skip Valve 17 = Stop Valve 18 = Stop/Skip 25 = Standard Valve 27 = Skip Valve 29 = Stop Valve 30 = Stop/Skip 31 = Standard Valve 33 = Skip Valve 35 = Stop Valve 36 = Stop/Skip 37 = Precision Valve	Standard Valve Standard Valve Standard Valve Standard Valve Skip Valve Skip Valve Skip Valve Skip Valve Stop Valve Stop Valve Stop Valve Stop Valve Stop Valve Stop Valve Stop Valve Stop Valve Precision Valve	38 = Precision Valve w/Skip 39 = Precision Valve w/Stop 40 = Precision Valve w/Stop/Skip 41 = Precision Valve 42 = Precision Valve w/Skip 43 = Precision Valve w/Stop 44 = Precision Valve w/Stop/Skip 45 = Precision Valve 46 = Precision Valve w/Skip 47 = Precision Valve w/Stop 48 = Precision Valve w/Stop/Skip 49 = Precision Valve 50 = Precision Valve w/Skip 51 = Precision Valve w/Stop	Precision Valve Precision Valve Precision Valve  Precision Valve w/Skip Precision Valve w/Skip Precision Valve w/Skip Precision Valve w/Skip  Precision Valve w/Stop Precision Valve w/Stop Precision Valve w/Stop Precision Valve w/Stop  Precision Valve w/Stop/Skip Precision Valve w/Stop/Skip Precision Valve w/Stop/Skip	52 = Precision Valve w/Stop/Skip 53 = Hi-Speed Valve 55 = Hi-Speed Valve w/Stop 61 = Hi-Speed Valve 63 = Hi-Speed Valve w/Stop	Precision Valve w/Stop/Skip Hi-Speed Valve Hi-Speed Valve Hi-Speed Valve w/Stop Hi-Speed Valve w/Stop
If stroke is non-standard, specify in inches. For lengths over 18", contact your local Parker distributor or Parker Field Representative.					

For Cylinder Division Plant Locations – See Page II.



## How To "Plan" Your Par-Check Applications

# Parker Par-Check

The statement we use in our literature, that the "HC" Par-Check is rated for a maximum load of 1,200 lbs, and the "DC" is rated at 3,000 lbs. – while very true – is only part of the story.

The 1,200 and 3,000 figures deal with thrust load, based on PRESSURE and AREA, but do not take into consideration length of checking STROKE or number of CYCLES per minute

### U.S. UNITS

**P = Air line pressure in p.s.i.**

**L = Length of actual checking stroke in inches**

**A = Piston area of the powering cylinder in in<sup>2</sup>**

**N = Number of complete cycles per minute**

When you multiply, pressure times length of stroke, times the area, times the number of cycles – the final product should not exceed:

**30,000 for Standard, 1-3/8" bore, Series HC**

**60,000 for Heavy Duty, 1-5/8" bore, Series DC and DA**

While the PLAN formula is accurate and dependable there are certain factors that must be considered, for example:

PLAN formula does not take into consideration any work load, consequently the Par-Check is resisting the total thrust (P x A) of the cylinder. You must think in terms of NET load imposed on the Par-Check which is the thrust that remains when you deduct the actual work load being lifted, or moved, by the cylinder. Thus a borderline answer might actually be well within the limit of the Par-Check when you deduct the work load from the thrust of the cylinder.

which determine volumetric displacement (energy absorbed) and its accompanying heat build-up. **Do not use your Par-Check in ambient temperatures over 120,° (50°C).**

All four of the above-mentioned factors are applied in the PLAN formula which we offer here for your consideration in estimating the capacity of the Par-Check.

### METRIC UNITS

**P = Air line pressure in BAR**

**L = Length of actual checking stroke in cms**

**A = Piston area of the powering cylinder in cms<sup>2</sup>**

**N = Number of complete cycles per minute**

**32,500 for Standard, 1-3/8" bore, Series HC**

**65,000 for Heavy Duty, 1-5/8" bore, Series DC and DA**

The work load also includes bearing and seal friction plus machine way friction or binding.

To obtain optimum Par-Check performance and maximum service life, always use lowest practical air pressure. This insures the most effective adjustment range for the Par-Check while minimizing heat build-up.

For future reference, using the word PLAN makes it easy to remember the formula without referring to printed matter.

## Par-Check Feed Rates in Inches and Millimeters Per Minute

Series				HC		DC With Standard Valve		DC With Stop Valve		DC With Precision Valve* With & Without Stop			DC With Hi-Speed Valve**		
Rod Pull † Lbs./N		In/Min. MM/Min.	Control		Skip	Control		Skip	Control		Skip	Control		Control	
			Min.	Max.		Min.	Max.		Min.	Max.		Min.	Max.	Min.	Max.
lbs.	100	in. min.	3	300	360	1.5	290	166	1.5	160	—	—	—	120	750
N	445	mm.min.	76	7620	9140	38	7370	4220	38	4060				3050	19000
lbs.	300	in. min.	5	400	460	2	375	230	2	220	60	1.0	60	120	780
N	1300	mm.min.	127	10200	11700	50	9520	5840	50	5590	1520	25.4	1520	3050	19800
lbs.	500	in. min.	8	460	520	2.5	425	280	2.5	260	63	1.0	63	120	830
N	2220	mm.min.	203	11700	13200	63	10800	7110	63	6600	1600	25.4	1600	3050	21100
lbs.	750	in. min.	12	520	575	3.75	470	320	3.75	315	65	1.0	65	120	860
N	3340	mm.min.	304	13200	14600	95	11900	8130	95	8000	1650	25.4	1650	3050	21800
lbs.	1000	in. min.	15	570	620	5	500	360	5	300	67	1.0	67	120	890
N	4450	mm.min.	381	14500	15700	127	12700	9140	127	8380	1700	25.4	1700	3050	22600
lbs.	1500	in. min.	—	—	690	7.5	540	420	7.5	390	69	1.0	72	120	930
N	6670	mm.min.	—	—	17500	190	13700	10700	190	9910	1750	25.4	1750	3050	23600
lbs.	2000	in. min.	—	—	750	10	595	460	10	430	72	1.0	72	120	950
N	8900	mm.min.	—	—	19000	254	15100	11700	254	10900	1830	25.4	1830	3050	24100
lbs.	2500	in. min.	—	—	790	13	615	500	13	460	76	1.0	76	120	965
N	11100	mm.min.	—	—	20100	330	15600	12700	330	11700	1930	25.4	1930	3050	24500

Series				DA With Standard Valve		DA With Precision Valve* With & Without Stop		DA With Hi-Speed Valve**		
Rod Pull † Lbs./N		In/Min. MM/Min.	Skip		Control		Skip	Control		
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
lbs.	1000	in. min.	550	1.5	400	100	1.0	70	120	630
N	4450	mm. min.	14000	38	10200	2540	25.4	1790	3050	16000
lbs.	2000	in. min.	550	3.5	450	105	1.0	75	120	710
N	8900	mm. min.	14000	88.9	11400	2670	25.4	1900	3050	18000
lbs.	2500	in. min.	550	13	500	110	1.0	80	120	950
N	11100	mm. min.	14000	330	12700	2790	25.4	2030	3050	24100

### Notes:

\*Minimum Rod Pull 175 lbs.

\*\*Available on Special Order Only.

†Forces shown in pounds (lbs.) and Newtons (N).

**For additional information – call your local Parker Cylinder Distributor.**

## Series HC Standard Duty Units for Checking Loads Up To 1200 Lbs.

### Single Acting Par-Checks

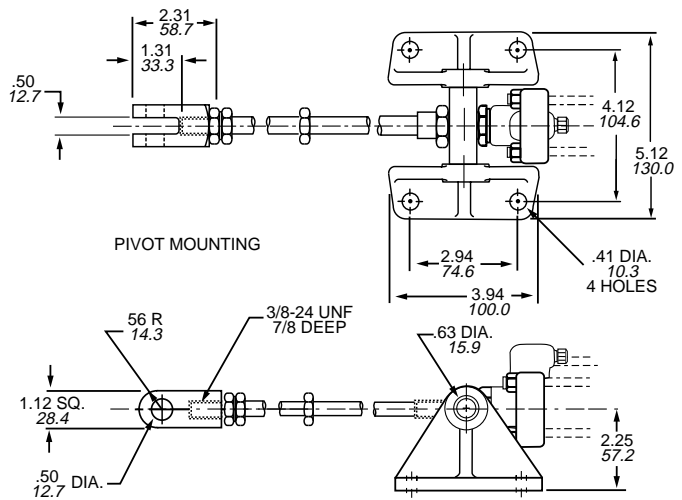
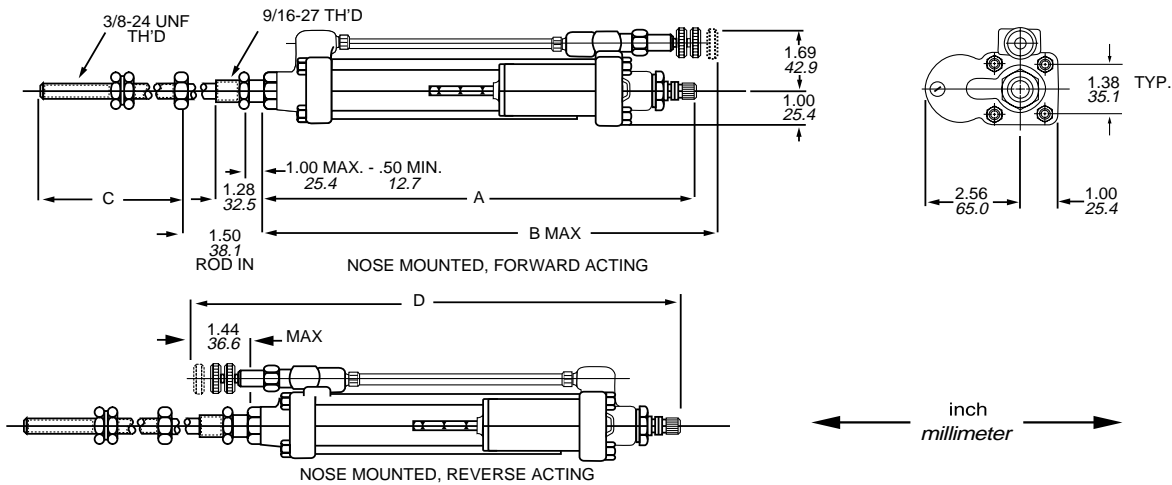
The Parker Series HC is offered in two basic configurations (Forward and Reverse acting). This high quality hydraulic resistance device is designed for checking loads up to 1200 lbs. (5340 N).

Nose and pivot mounted units are available with either forward or reverse acting checking action. The rod nuts are to be used to regulate pick-up of checking action on the feed or when the Par-Check is used as a component of any other type of machine. Pivot mounted units can be readily adapted where the machine member to be controlled does not move in a straight line.

This unit can be ordered with remote valving if required.



A



Stroke		2"	4"	6"	9"	12"	15"	18"
A	inch	7.88	9.88	11.88	14.88	17.88	20.88	23.88
	mm	200.2	251.0	301.8	378.0	454.2	530.4	606.6
B	inch	8.50	10.50	12.50	15.50	18.50	21.50	24.50
	mm	215.9	266.7	317.5	393.7	469.9	546.1	622.3
C	inch	10.00	10.00	10.00	10.00	12.00	15.00	18.00
	mm	254.0	254.0	254.0	254.0	304.8	381.0	457.2
D	inch	9.31	11.31	13.31	16.31	19.31	22.31	25.31
	mm	236.5	287.3	338.1	414.3	490.5	566.7	642.9

For Cylinder Division Plant Locations – See Page II.

## Series DC Heavy Duty Units for Checking Loads Up to 3000 Lbs.

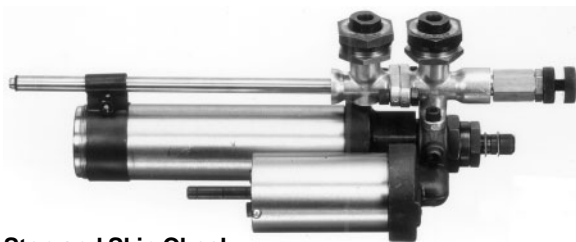
The Series DC Par-Check offers a selection of models ranging from single-acting units, through Stop and Skip Check models, to the Precision Par-Check described on page 8. All models included in the Series DC are heavy duty units for use with checking loads up to 3,000 lbs. (13300 N). Most units can be equipped with heavy duty foot bracket and rear support bracket to permit secure installation with minimum time and effort. The foot bracket is easily removed for mounting by loosening the nut on the threaded piston nose guide.



Skip Check



Stop Check



Stop and Skip Check

### Skip and Stop Check Models Offer Unlimited Flexibility

Series DC Par-Checks are available in standard models which include Skip Valve, Stop Valve, or a combination of both. An air cylinder equipped with any one of these unique hydraulic control devices is converted into a highly flexible, precision unit capable of almost unlimited application. Skip and Stop Valves offer a choice of pneumatic or electrical control.

**When electrical control is desired, Skip and Stop Valves are factory-equipped with a Parker 3-way Pilot Valve integrally mounted. These valves are available in four standard operating voltages: AC 115V, 230V, 440, or 12VDC. (Specify voltage desired.) Other voltages on special order.**

#### Skip-Checking

In many operations intermittent checking action may be highly desirable – for example, certain drilling jobs may require controlled feeding only at entry and breakthrough points. The application and release of air pressure on the Skip Valve permits checking action to be used intermittently at whatever points desired.

#### Stop-Checking

Stop-Check Par-Checks permit the air cylinder piston rod and the Par-Check piston rod to be stopped at any point in their travel, dwell for any desired time interval, then continue. As many stops may be made as desired. When air pressure is directed into the Stop Valve, piston rod movement stops and remains until air pressure is released.

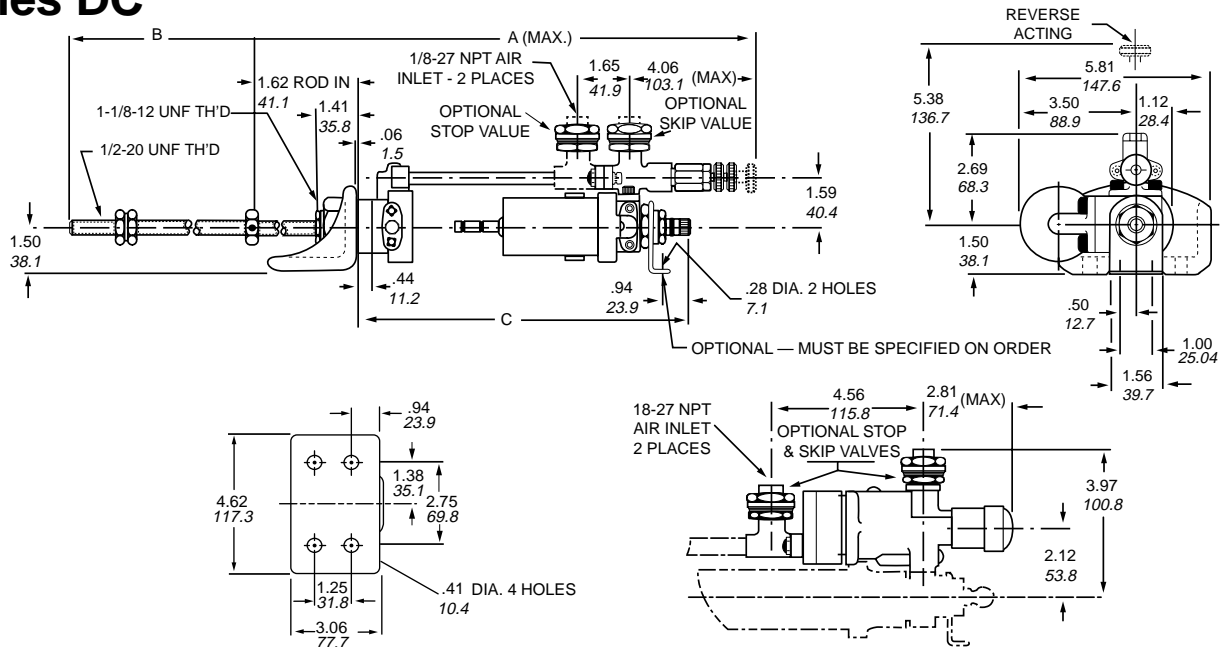
#### Stop-Check Skip-Check Models

Par-Checks combining Stop and Skip Valves offer almost unlimited flexibility. With these models, piston rod movement may be stopped at any number of points desired and checking action can be applied to any number of segments of the stroke. When used in combination, each valve functions in exactly the same manner as when used separately.

To prevent any foreign particles in the Par-Check oil from affecting the feed rate, Stop-Check and Stop-Check Skip-Check models are equipped with a filter element.

For additional information – call your local Parker Cylinder Distributor.

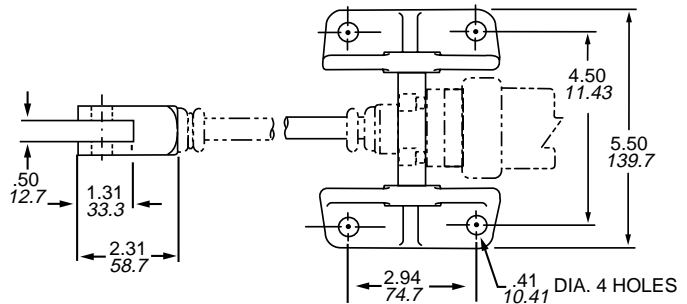
**Series DC**



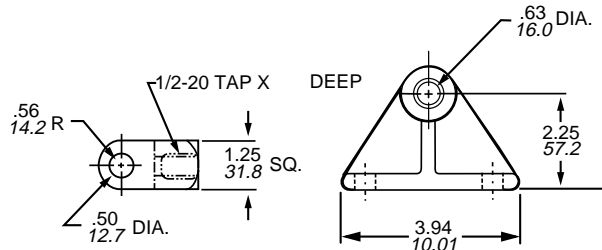
Stroke		2"	4"	6"	9"	12"	15"	18"
A	inch	11.78	13.78	15.78	18.78	21.78	24.78	27.78
	mm	299.2	350.0	400.8	477.0	533.2	629.4	705.6
B	inch	10.00	10.00	10.00	10.00	12.00	15.00	18.00
	mm	254.0	254.0	254.0	254.0	304.8	381.0	457.2
C	inch	8.19	10.19	12.19	15.19	18.19	21.19	24.19
	mm	208.0	258.8	309.6	385.6	462.0	538.2	614.4

inch  
millimeter

**Series DA and DC  
Pivot Mounting  
Bracket Dimensions**



inch  
millimeter



For Cylinder Division Plant Locations – See Page II.

## Series DA

### Heavy Duty Units for Checking Loads Up to 3000 Lbs. Forward or Reverse



#### Double-Acting Par-Checks

The Series DA designates a series of Parker Par-Checks used to provide control in applications which require checking action on both advance and retract of piston rod. They are heavy duty units for checking loads up to a maximum of 3,000 lbs. (13300N). They can be operated in any position and can be mounted tandem or parallel to the force they control.

A standard Series DA Par-Check has the same standard valve options as the Series DC plus a standard Hi-Speed Valve option.

Series DA Par-Checks with special valving arrangements to meet particular application requirements are available on order – please consult your Parker Fluidpower Sales Representative for model designations and ordering information.

## Series DC and DA

### Par-Checks with Precision Control Valves

Convert any air cylinder into a precision device for timing . . . sequencing . . . and tool feeding operations where feed rate is no more than 50' (1300 mm) or less than 1" (25.4mm) per minute.

Series DC and DA Precision Par-Checks are heavy-duty units for checking loads up to maximum of 3,000 pounds (13300 N).

Parker Precision Control Valves were developed for use in applications where extreme accuracy of movement is required. On a Precision Par-Check the regulator valve assembly of the Standard Model is replaced by the Precision Control Valve assembly. The Precision Control Valve not only provides feed rate adjustment but will maintain the pre-set feed rate.

The Precision Control Valve differs from the ordinary Par-Check control valve in that it incorporates automatic flow and thermal compensation devices and a sintered metal filter. Slight variations in piston rod load and in air pressure will cause virtually no change in feed rate selected for a particular operation.

An integral sintered metal filter (40-micron) in the valve functions as an extra safeguard to eliminate any foreign matter that might be present in oil added to the Par-Check under operating conditions.

Precision Control Par-Checks may include optional features, such as Stop and Skip Valves. Precision Control Valves are offered as standard options on Series DC and DA Par-Checks with both Stop and Skip Valve control. If required Series HC Par-



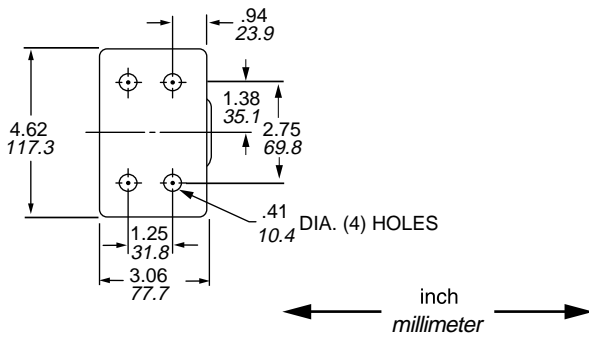
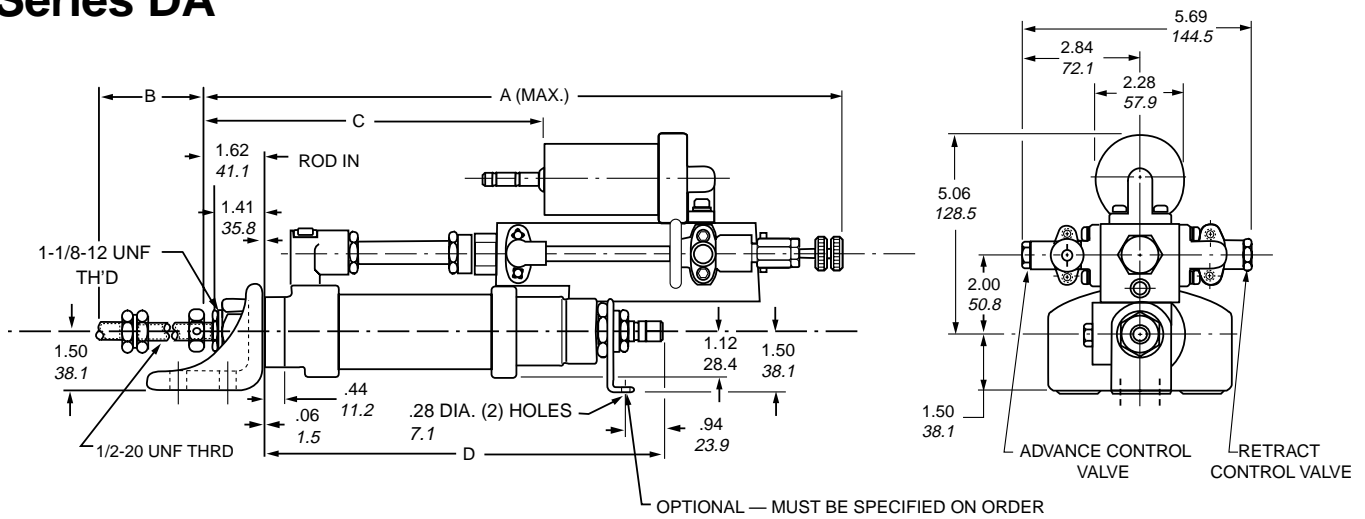
Checks can be equipped with remote mounted Precision Control Valves. Manifold mounted Precision Control Valves can also be ordered as separate components for use as Hydraulic System Flow Control Valves.

Precision Control Valve Assemblies are also available separately for mounting on any Series DC or DA Par-Check now in use. When ordering such components specify stroke length of the Par-Check being converted since a new transfer tube is supplied with each Precision Control Valve used on Series DC or DA Par-Check.

**For additional information – call your local Parker Cylinder Distributor.**



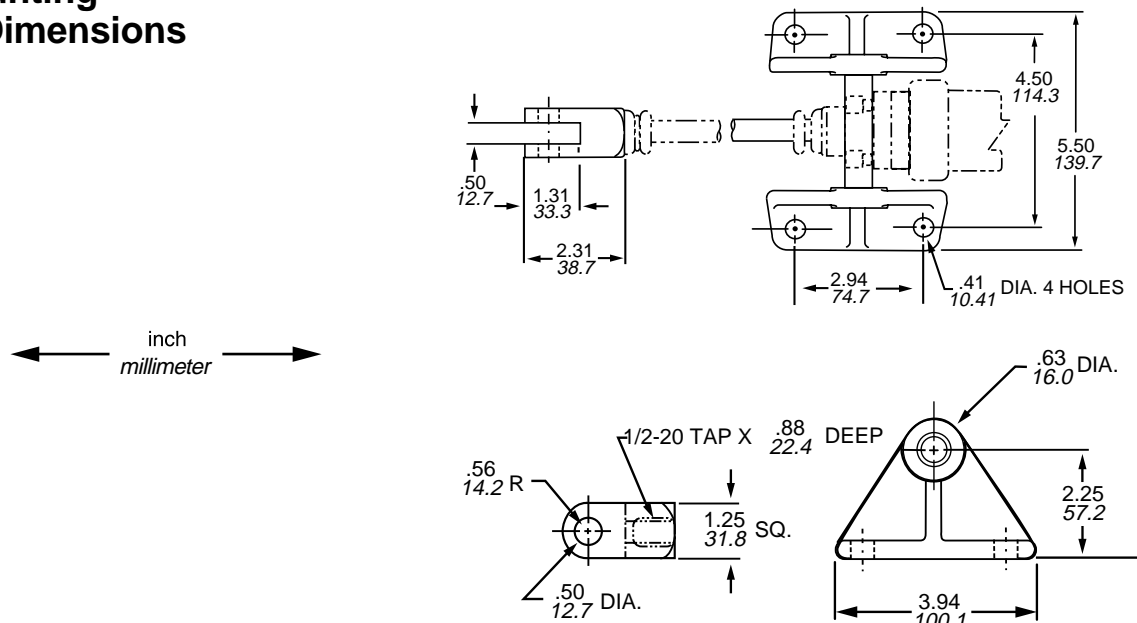
### Series DA



Stroke		2"	4"	6"	9"	12"	15"	18"
A	inch	14.84	16.84	18.84	21.84	24.84	27.84	30.84
	mm	376.9	427.7	478.5	554.7	630.9	707.1	783.3
B	inch	10.00	10.00	10.00	10.00	12.00	15.00	18.00
	mm	254.0	254.0	254.0	254.0	304.8	381.0	457.2
C	inch	6.39	8.39	10.39	8.89	11.89	14.89	17.89
	mm	162.3	213.1	263.9	225.8	302.0	378.2	454.4
D	inch	8.19	10.19	12.19	15.19	18.19	21.19	24.19
	mm	208.0	258.8	309.6	385.8	462.0	538.2	614.4

### Series DA and DC

#### Pivot Mounting Bracket Dimensions



For Cylinder Division Plant Locations – See Page II.

## How To Order Series 2A Cylinder Par-Check Parallel Mounting Kit

The pneumatic cylinder Par-Check mounting kits are used to couple our 2A pneumatic cylinder and Par-Check. The Par-Check, a precision-built hydraulic resistance unit, is used to smooth and control the motion of the pneumatic cylinder.

Parallel mounting kits are available for 2, 2-1/2, 3-1/4 inch bore 2A cylinders in a variety of mounting styles.

Parallel mounting allows rapid traverse of the pneumatic cylinder prior to engagement of the Par-Check piston rod. The length of rapid traverse of the pneumatic cylinder is easily adjusted by positioning the stop nuts on the Par-Check piston rod.

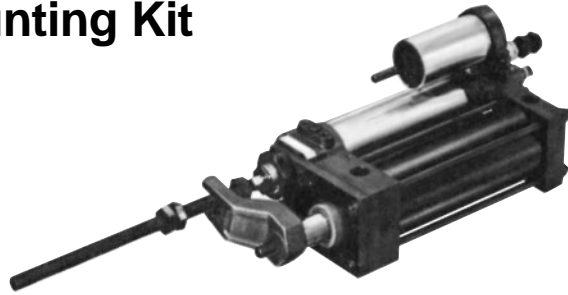
2A cylinders ordered are to be equipped with female threaded piston rods. Kit includes stud to provide male thread shown on dimensional.

**When ordering, specify a complete 2A cylinder\*, Par-Check, and parallel kit model numbers.**

**All parallel mounting kits are designed to withstand the maximum rated loading of the 2A cylinders to which they are coupled.**

**However, to insure long dependable Par-Check and cylinder life, it is recommended that the pneumatic cylinder piston rod be guided by ways to minimize the effect of side loading created by the advancing pneumatic cylinder piston rod and**

\*For further cylinder ordering information, see the Series 2A section of this catalog.

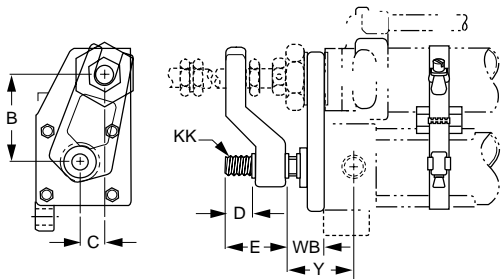


the resisting Par-Check piston rod.

To minimize side loading, the following installation procedure is recommended: The Par-Check control valve should be initially opened to allow full flow. The air pressure to the pneumatic cylinder should then be adjusted to develop thrust slightly greater than that required. The control valve of the Par-Check can then be adjusted to provide the proper feed rate.

**NOTE:\*** Available only for cylinders with the following mountings:

1. Side Lug
2. Side Tapped
3. Cap Extended Tie Rods
4. Head Trunnion
5. Cap Trunnion



Bore	Cylinder			Dimensions							
	Rod Code	Rod Dia.		B	C	D	E	Y	WB	KK	
2	1	5/8	inch mm	2.54 64.5	.66 16.8	.75 19.0	1.69 42.9	1.88 47.8	1.00 25.4	7/16-20	
	3	1	inch mm	2.54 64.5	.66 16.8	.75 19.0	1.69 42.9	2.25 57.2	1.38 35.1		
2½	1	5/8	inch mm	2.77 70.4	.78 19.8	.75 19.0	1.69 42.9	1.88 47.8	1.00 25.4		
	3	1	inch mm	2.77 70.4	.78 19.8	.75 19.0	1.69 42.9	2.25 57.2	1.38 35.1		
3¼	1	1	inch mm	3.26 82.8	.50 12.7	1.12 28.4	2.19 55.6	2.38 60.5	1.38 35.1		3/4-16
	3	1⅜	inch mm	3.26 82.8	.50 12.7	1.12 28.4	2.19 55.6	2.62 66.5	1.62 41.1		

Series 2A Pneumatic Cylinder Bore Size	Single And Double Rod		For Series HC Par-Check w/2, 4 & 6" Strokes	For Series DC & DA Par-Check w/2, 4 & 6" Strokes	For Series DC & DA Par-Check w/9" Strokes & Longer
	Rod Code	Rod Dia.	Mounting Kit No.	Mounting Kit No.	Mounting Kit No.
2	1	5/8	L074510040	L074541040	L074540040
	3	1	L074510100	L074541100	L074540100
2-1/2	1	5/8	L074520040	L074551040	L074550040
	3	1	L074520100	L074551100	L074550100
3-1/4	1	1	L074530100	L074561100	L074560100
	3	1-3/8	L074530124	L074561124	L074560124

**For additional information – call your local Parker Cylinder Distributor.**

### How To Order Series 2A Cylinder with Inline Par-Check 2 1/2", 3 1/4", 4" & 5" 2A Series Cylinders with Single or Double Acting Par-Checks

The inline pneumatic cylinder Par-Check consists of two coupled assemblies: These are the 2A pneumatic cylinder axially linked to a Par-Check. The Par-Check is a precision built, adjustable hydraulic resistance unit designed to provide controlled feed rates. When coupled to a cylinder, excellent linear control is attained.

The Cylinder/Par-Check combination provides consistent axial loading with adjustable hydraulic resistance for a smooth controlled feed rate. Axial coupling of these units minimizes eccentric loading of component parts normally encountered with parallel feed control devices.

Pneumatic cylinders are available in 2-1/2, 3-1/4, 4, 5 inch bore sizes in a variety of mounting styles. The Par-Check is capable of checking axial loads to a maximum of 3000 lbs.

Note: Both cylinder and Par-Check model numbers must be specified. Example: Air Cylinder, 3-1/4" J 2 A U S 14 A x 2", #0162 DC A 01 2.00 Par-Check. S = Cylinder modified for inline mounting with Par-Check.



A

### How To Order Series DC and DA Par-Check for Inline Mounting with 2A Pneumatic Cylinders

<u>0162</u>		<u>DC</u>	<u>A</u>	<u>01</u>	<u>2.00</u>																											
Bore	Mount	Series	Mod.	Valve Option*	Stroke																											
	Leave blank for Inline Mount.	DC = Single Acting  DA = Double Acting	A = Inline	<table border="0"> <tr> <td><b>Single Acting</b></td> <td><b>Double Acting</b></td> <td></td> </tr> <tr> <td>01 = Standard</td> <td>01 = Standard</td> <td>2.00</td> </tr> <tr> <td>02 = Std. Reverse Acting</td> <td>36 = Stop &amp; Skip</td> <td>4.00</td> </tr> <tr> <td></td> <td>37 = Precision</td> <td>6.00</td> </tr> <tr> <td>11 = Stop &amp; Skip Forward Acting</td> <td>52 = Precision w/ Stop &amp; Skip</td> <td>9.00</td> </tr> <tr> <td></td> <td></td> <td>12.00</td> </tr> <tr> <td>12 = Stop &amp; Skip Rev. Acting</td> <td></td> <td>15.00</td> </tr> <tr> <td>13 = Precision</td> <td></td> <td>18.00</td> </tr> <tr> <td>14 = Precision Rev. Acting</td> <td></td> <td>Above are standard strokes. For non-standard strokes, specify in inches.</td> </tr> </table>	<b>Single Acting</b>	<b>Double Acting</b>		01 = Standard	01 = Standard	2.00	02 = Std. Reverse Acting	36 = Stop & Skip	4.00		37 = Precision	6.00	11 = Stop & Skip Forward Acting	52 = Precision w/ Stop & Skip	9.00			12.00	12 = Stop & Skip Rev. Acting		15.00	13 = Precision		18.00	14 = Precision Rev. Acting		Above are standard strokes. For non-standard strokes, specify in inches.	
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12 = Stop & Skip Rev. Acting		15.00																														
13 = Precision		18.00																														
14 = Precision Rev. Acting		Above are standard strokes. For non-standard strokes, specify in inches.																														

**Note:** Cylinder stroke must be equal to or less than Par-Check stroke.  
Specify voltage with Stop & Skip – AC-120V, 240V; 12VDC.

\*For complete listing of valve options, see "How to Order" page.

For length dimensions of 2A Cylinder/Inline Par-Check Assemblies, use the appropriate Par-Check and cylinder dimensions and add:

- 3.062" – 2 1/2" bore cylinders
- 3.000" – 3 1/4", 4", 5" bore cylinders

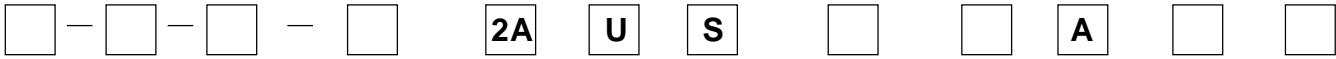
For Cylinder Division Plant Locations – See Page II.



## Series 2A Model Numbers – How to Develop Them – How to "Decode" Them

Parker Series 2A cylinders can be completely and accurately described by a model number consisting of coded symbols. Selection of a standard cylinder for use with parallel mounted or in-line mounted Par-Checks is described below. For special cylinders, technical information and special features that are available, see "How to order Series 2A Cylinders".

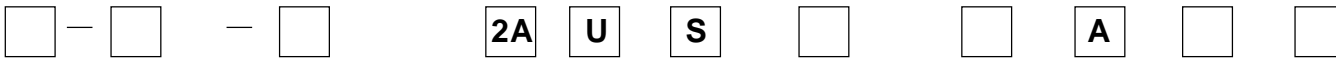
### How to Order 2A Cylinders for Use with Par-Check Parallel Mounting Kits



Cyl. Bore Size	Cushion Head	Double Rod	Mounting Style	Series	Ports		Piston Rod Number		Piston Rod End	Piston Rod Threads	Cushion Cap	Stroke
							Bore					
2"	C = Cushion Head Blank = No cushions Head End	K = Double Rod.  Leave Blank for Single Rod.	C - Side Lug (MS2)	-	U = NPTF	S = Special* i.e.: Cylinder Modified for Parallel Mounting with Par-Check	2"	1 = 5/8"	9 = Small Female	A = UNF Standard	C = Cushion Cap  Blank = No cushions Cap End.	Specify in inches.
			F - Side Tapped (MS4)	-				3 = 1"				
2 1/2"	TC - Cap Extended Tie Rods (MX2)	-	Bore	1 = 1"								
3 1/4"	D - Head Trunnion (MT1) DB - Cap Trunnion (MT2)	-		3 = 1 3/8"								

\* Example: To order 2A cylinder parallel mounted to Par-Check specify: air cylinder 2 1/2" F2AUS19A x 6".  
S=Cylinder modified for parallel mounting to Par-Check.  
Par-Check 0162TDC 01 x 6.00.  
Mounting kit L074551040.

### How to Order 2A Cylinders for Use with Inline Par-Check



Cyl. Bore Size	Cushion Head	Mounting Style	Series	Ports		Piston Rod Number		Piston Rod End	Piston Rod Threads	Cushion Cap	Stroke
						Bore Size					
2 1/2"	C = Cushion Head  Blank = No cushions Head End	C = Side Lug (MS2)	-	U = NPTF	S = Special** i.e.: Cylinder Modified for Parallel Mounting with Par-Check	2 1/2"	1 = 5/8"	4 = SM ( 7/16-20 ) 8 = IM ( 1/2-20 ) 9 = SF ( 7/16-20 )	A = UNF Standard	C = Cushion Head  Blank = No cushions Cap End	Specify in inches.
		F = Side Tapped (MS4)	-				3 = 1"				
3 1/4"	J = Head Rectangular Flange (MF1)	-	Bore Size			1 = 1"					
4"	JB = Head Square Flange (MF5)	-				3 1/4"					
5"		TB = Tie Rods Extended Head End (MX3)	-	4"	3 = 1 3/8"	1 1/8" Rod	4 = SM ( 3/4-16 ) 8 = IM ( 7/8-14 ) 9 = SF ( 3/4-16 )				
		D = Head Trunnion (MT1)	-			1 1/8" Rod					
		DD* = Intermediate Fixed Trunion (MT4)	-			4 = SM ( 1-14 ) 8 = IM ( 1 1/4-12 ) 9 = SF ( 1-14 )					

\* For cylinders with "DD" Fixed Trunnion, see Series 2A Cylinder Section for complete ordering instructions.

\*\* Example: To order 2A cylinder inline mounted with Par-Check, specify: air cylinder 3 1/4" J2AUS14A x 2".  
S = Cylinder modified for inline mounting to Par-Check.  
Par-Check 0162DCA01 x 2.00.

For additional information – call your local Parker Cylinder Distributor.

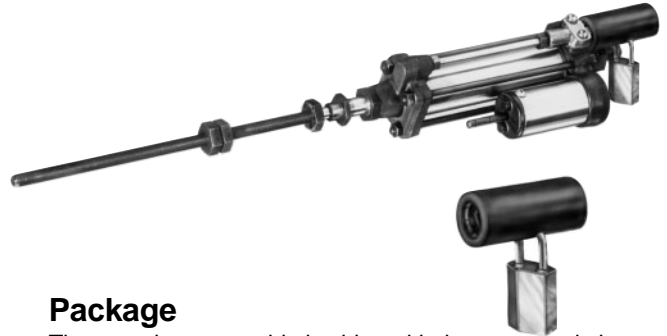
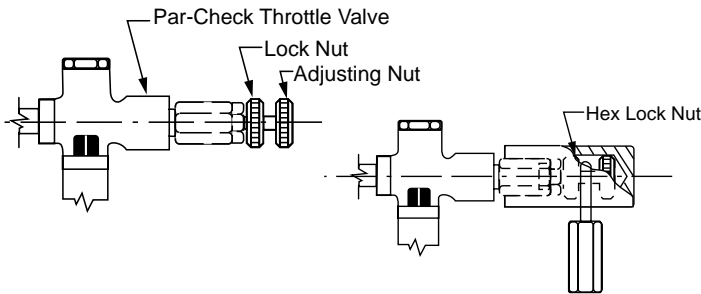
## Accessories

### Throttle Security Cover

Under certain circumstances, it may be desirable to adjust the Par-Check and protect the throttle control valve from unsupervised readjustment.

The B182-011 Throttle Security Cover assembly can be used to make the throttle valve setting of Par-Check virtually tamper-proof. Once the desired setting of the throttle control valve has been obtained, the B182-011 Throttle Security Cover assembly is installed and no one but a keyholder can remove it to re-adjust the throttle control valve.

The B182-011 Throttle Security Cover assembly is complete with Sleeve-Security Cover, Padlock, two keys, two nuts, and a copy of an installation procedure. This throttle security cover may be used on most Series HC, DC, or DA standard Par-Checks and Series HC, DC, or DA Inline Par-Checks. Security cover cannot be used on Par-Checks equipped with precision control valves.



### Package

The complete assembly is shipped in its own plastic bag, and includes our installation procedures.

The photo shows an installed B182-011. All locks are keyed alike unless otherwise specified.

### Installation Procedure

To install the Throttle Security Cover assembly, remove the Par-Check lock nut and adjusting nut. Replace the knurled lock nut with one of the two hex nuts provided. Replace the adjusting nut, and adjust the Par-Check as desired; once adjusted, tighten the lock nut with a wrench taking care to maintain the desired adjustment position. Once this is done, slip the Security Cover Sleeve over the throttle and then slip the pad lock shackle through the holes in the Security Cover. Be sure the padlock shackle is between the adjusting nut and the closed end of the Security Cover. Snap the padlock closed and keep the keys in a safe place.

### Par-Check Fill Gun

During normal operation of a Par-Check, some oil may be lost over a period of time through slight leakage at the rod gland and in the balance cylinder. Slight leakage does not indicate break-down of the seals. The B161-003 Par-Check Oil Fill Gun is especially designed for maintaining the proper oil level in Par-Checks.

It should be a part of normal maintenance procedures to replace oil lost during normal operation of the Par-Check BEFORE the reservoir is COMPLETELY EMPTY. Our F442 oil is especially blended for use in Par-Checks and should be used when refilling Par-Checks.

### Ordering

A complete fill gun assembly B161-003 or hose assembly B012-013 may be ordered. The B161-003 oil gun is a complete, ready to use filling system. The B012-013 adaptor assembly may be adapted to other commercially available fill guns by the use of a 3/8 JIC female swivel fitting on adaptor hose for filling Par-Checks. Our F442 oil must be ordered separately.



B161-003 Oil Fill Gun

B012-013 Hose Assembly



1 gallon -  
128 fluid ounces  
(3.8 litres)



1 quart -  
32 fluid ounces  
(0.9 litres)

### Par-Check Oil

F442 oil is equally suited for lubricating air-operated devices and as a hydraulic oil for closed circuit devices such as the Par-Check.

F442 oil is available in one quart or one gallon containers, supplied in the quantities listed.

- 1 gallon ..... F442-002
- 12 quart case ..... F442-003
- 4 gallon case ..... F442-005

For Cylinder Division Plant Locations – See Page II.



# Parker *inPHorm*<sup>TM</sup>

## Cylinder Sizing, Selection, and Parametric CAD Software

Parker is pleased to introduce Version 1.5 of *inPHorm*<sup>TM</sup> for **Cylinders**. This program allows you to select the proper Parker cylinder for your application. *inPHorm* for Cylinders will increase your efficiency and minimize the engineering time required to design in cylinders. This new release, *inPHorm* 0860 CD/USA Version 1.5 has been updated with new product lines and seal kit information.

*inPHorm* for Cylinders is written for use with Windows, which makes it extremely user friendly. You can use the program to develop a model number. *inPHorm* for Cylinders guides you through the selection process, performs the calculations, and eases the process of sorting through catalog drawings, charts and tables. You can also employ the "Direct Part Number Entry" module to input a known model number. In either case, you can view a dimensioned

drawing, generate a print or DXF file and even create a quote request or order form.

"Advisor" options within the program offer additional assistance with special modifications and design considerations.



THE UPDATED  
VERSION 1.5  
NOW ON  
CD



During any portion of the program, reference material can be accessed or printed for future use.

The *inPHorm* cylinders sizing, selection and parametric CAD software is designed around the user to assist in the design process and minimize the time required to specify, draw and file your favorite Parker Cylinder product. By working with the Parker *inPHorm* for Cylinders software, the design, selection and specification of Parker cylinders becomes easier and faster for the most effective use of your valuable time.

### System Highlights

- Cylinder Sizing and Selection
- Parametric Drawing Creation
- Windows-based
- Input Formats:
  - Direct Part Number Entry
  - Systematic Design
- Available Information Outputs:
  - HPGL CAD Drawing
  - CAD File (\*.dxf)
  - Selection Summary
  - Printout
  - RFQ/Order Sheet Printout

For further details, or to purchase your copy of *inPHorm* for Cylinders, call your local Parker distributor or 1-800-C-Parker (272-7537). To try *inPHorm* visit our web site at [www.Parker.com/cylinder](http://www.Parker.com/cylinder).

Worldclass  
Quality Products  
and Service

