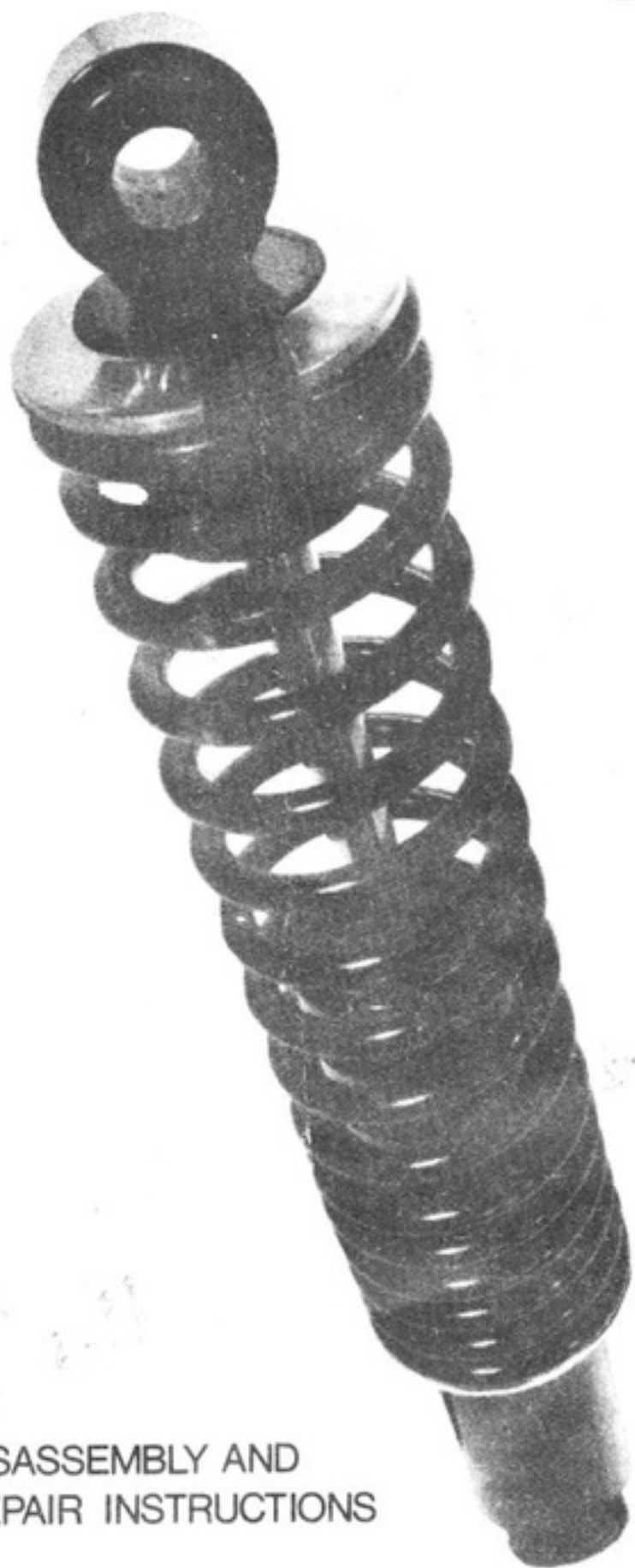


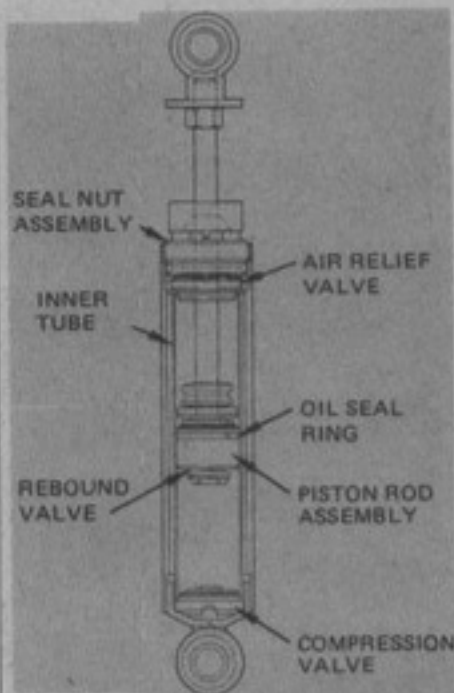
# Mulholland<sup>®</sup>

BY **interpart**

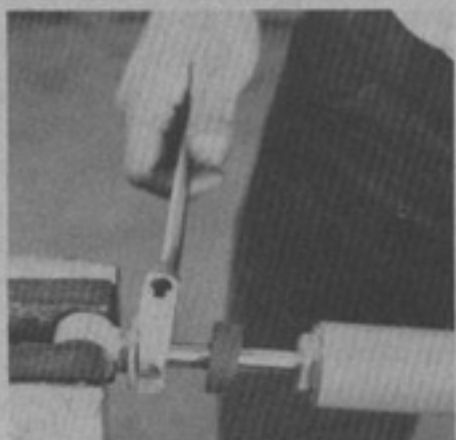


DISASSEMBLY AND  
REPAIR INSTRUCTIONS

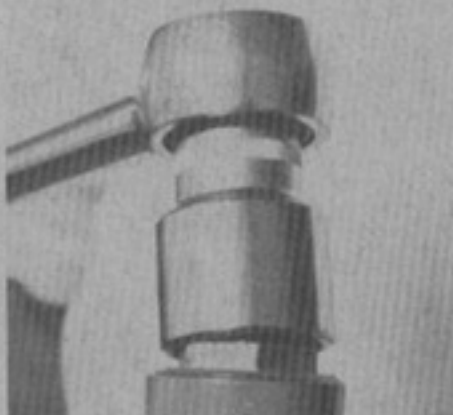
# BOGE



BOGE SHOCKS

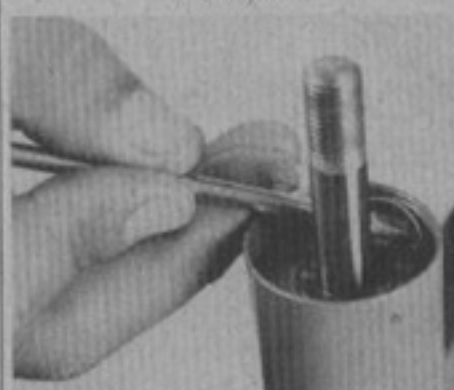


Place head of shock in a vice or insert a punch through the eyelet to hold shock steady and place 13mm (1/2" or 11/16") wrench on top retaining nut.



Depress piston rod assembly to lower position. Place one inch flat bottom socket on seal nut assembly and remove in counterclockwise direction.

**CAUTION:** Do not use adjustable type wrench for this step or serious damage may occur to the seal nut.



Carefully unseat and remove "O" ring by hand or with a small screwdriver. **CAUTION:** Do not damage setting guide or "O" ring during removal.



Loosen retaining nut counterclockwise. Rotate shock in holding device and remove eyelet, washer, nut, and rubber bumper.



Slide nut seal assembly up piston rod until it reaches threaded section and carefully twist off from that point. Be careful not to damage nut seal if it is to be reused.



Pull complete piston assembly out enough to expose the inner valve tube. Hold the valve tube and slide the steel "O" ring guide setting off.



Slide rod guide off while holding the inner valve tube.

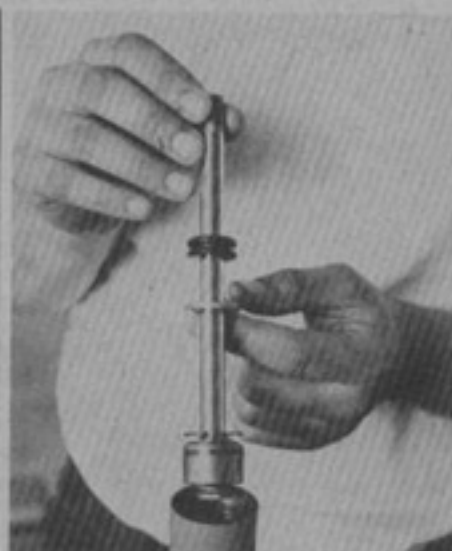


Carefully pull piston rod assembly out of the inner valve tube. Place rod assembly aside until completion of next step.



After removal of piston rod assembly. Pour out old shock fluid from inner valve tube and shock body reservoir. Clean and dry all parts thoroughly.

If you need to replace the piston rod assembly be sure to remove the inner rubber stop and washer seat from the piston rod and place them on the new piston rod.



Compression valve replacement can be done at this point. Bottom the piston rod once or twice on the compression valve and it will come out.

Before re-assembling your shock, be sure to measure a predetermined amount of Mulholland Hydro-Damp Fluid as recommended for your shock size. Consult the following fluid chart for the appropriate measurements.

SHOCK NO.	AMOUNT
MX 1075 .....	74cc ± 2
MX 1175 .....	87cc ± 3
MX 1225 .....	95cc ± 3
MX 1300 .....	98cc ± 3
MX 1350 .....	110cc ± 3
MX 1400 .....	122cc ± 3
SS 1175 .....	87cc ± 3
SS 1225 .....	95cc ± 3
SS 1300 .....	110cc ± 3
SS 1350 .....	117cc ± 3
SS 12608 .....	91cc ± 3
SS 12610 .....	91cc ± 3
SS 13308 .....	105cc ± 3
SS 13310 .....	105cc ± 3
SS 13010 .....	100cc ± 3

Fill the inner valve tube approximately  $\frac{3}{4}$  full and pour the remainder of the measured Hydro-Damp Fluid into the shock body reservoir.



Place assembly into shock body. Be careful not to spill Hydro-Damp Fluid. Place rod guide on piston rod. Slide down and position in top of the inner valve tube.

Place the steel "O" ring setting on the piston rod and center over the rod guide. Push assembly down into shock body to seat.



Lower the rubber "O" ring into the shock body. Make certain that it is down flush on the rod guide and is below the inner threads.



Place bullet head tool over piston rod threads and lubricate with grease. Slide the seal nut assembly down into place and screw down by hand.



Using a torque wrench and one-inch flat bottom socket tighten the seal nut assembly down to 40 ft./lbs. torque maximum.

Place the rubber bumper on the shaft. Use some Lock-tite or equivalent on the locking nut and screw onto the shaft.



Place top eyelet assembly on the shaft and tighten down. Use a vice or a punch to hold the eyelet and lock the holding nut against the eyelet with a 13mm wrench.



190 TO 225 LBS.	<b>LIGHTWEIGHTS</b>	40 80 STWD	40 80 STWD	40/90 80/90PR	40/90 80/90PR	40/90 80/90PR	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD	
	Spring Rate In Lbs. Part Number Second Alternative Compression (Foot) Valve Rebound (Piston Rod) Valve	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT
225 TO 260 LBS.	<b>MEDIUM WEIGHTS</b>		60 80 STWD	60/90 80/90PR	60/90 80/90PR	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD	90 90 STWD	
	Spring Rate In Lbs. Part Number Second Alternative Compression (Foot) Valve Rebound (Piston Rod) Valve		STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT SOFT/MED.	
260 TO 290 LBS.	<b>SEMI-HEAVYWEIGHTS</b>			60/90 80/90PR	60/90 80/90PR	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90/120 90/120PR	90/120 90/120PR	
	Spring Rate In Lbs. Part Number Second Alternative Compression (Foot) Valve Rebound (Piston Rod) Valve			STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT SOFT/MED.	SOFT/HARD MEDIUM	SOFT/HARD MEDIUM	
290 TO 330 LBS.	<b>HEAVYWEIGHTS</b>				78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90/120 90/120PR	110 110 STWD	110 110 STWD	120 120 STWD
	Spring Rate In Lbs. Part Number Second Alternative Compression (Foot) Valve Rebound (Piston Rod) Valve				STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT MEDIUM	SOFT/HARD MEDIUM	STD. SOFT MEDIUM	SOFT/HARD MEDIUM

### MX Shocks (For Special G.P. Suspensions with Extreme Forward Angle and Cantilever Set-Ups)

MOTORCYCLE WEIGHT	DESCRIPTION	RIDERS WEIGHT (IN LBS.)								REMARKS	
		130	140	150	160	170	180	190	200		210
UP TO 200 LBS.	<b>ULTRA LIGHTWEIGHTS</b>	80/100 80/100PR	90 90 STWD	90 90 STWD	90 90 STWD	90/120 90/120PR	90/120 90/120PR	90/120 90/120PR	110 110 STWD	110 110 STWD	The hydraulic action of all of our shocks can be increased about 25% when using our heavy duty Hydro-Damp Fluid - (20-22 grade). It should be used carefully and only when a greater hydraulic compression and rebound are needed. **  Preload and spring rate choice depends not only on weight and position of shock mounts but on rider's style and ability. This chart gives you a general idea on how to choose the right spring rate and shock setting, but final choice always depends on rider's preference.  All Multiland SS and MX shocks are filled with the medium new Hydro-Damp fluid at the factory which is the equivalent to 5-12 grade. When replacing oil convert, always use the exact amount recommended. Our Hydro-Damp Fluid has been designed and developed to give optimum performance and endurance. Any oil or fluid that does not achieve the high standards of our Multiland Hydro-Damp Fluid may directly affect the proper action and life of your shocks.  All shocks and all piston rod valves and foot valve assemblies are factory dyno tuned. Absolutely all assemblies go through three different oil flow dynamometers to test and adjust loads in three different speed conditions and in all the damping variations we produce. Years of research and many hours of testing and adjusting the components of your shocks make it possible to offer you equal-matched pairs at all times. Please, do not attempt to change valving conditions, it will void our guarantee and unless you have sophisticated flow dynamometers you may never match a set of dampers again.
	Spring Rate In Lbs. Part Number Compression (Foot) Valve Rebound (Piston Rod) Valve	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	STD. SOFT STD. SOFT	HARD STD. MED.	STD. SOFT SOFT/MED.	HARD STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	
200 TO 220 LBS.	<b>LIGHTWEIGHTS</b>	90 90 STWD	90/120 90/120PR	90/120 90/120PR	110 110 STWD	110 110 STWD	120 120 STWD	130 130 STWD	136 136 STWD	136 136 STWD	
	Spring Rate In Lbs. Part Number Compression (Foot) Valve Rebound (Piston Rod) Valve	STD. SOFT STD. SOFT	STD. SOFT SOFT/MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	
220 TO 240 LBS.	<b>MEDIUM WEIGHTS</b>	90/120 90/120PR	110 110 STWD	110 110 STWD	110 110 STWD	120 120 STWD	120 120 STWD	136 136 STWD	136 136 STWD	150 150 STWD	
	Spring Rate In Lbs. Part Number Compression (Foot) Valve Rebound (Piston Rod) Valve	STD. SOFT SOFT/MED.	STD. SOFT STD. MED.	HARD STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	SOFT/HARD MED./HARD	
240 TO 260 LBS.	<b>HEAVYWEIGHTS</b>	110 110 STWD	110 110 STWD	120 120 STWD	120 120 STWD	130 130 STWD	136 136 STWD	136 136 STWD	150 150 STWD	150 150 STWD	
	Spring Rate In Lbs. Part Number Compression (Foot) Valve Rebound (Piston Rod) Valve	STD. SOFT STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	HARD STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	SOFT/HARD MED./HARD	HARD HARD	

<b>STRAIGHT WOUND SPRINGS</b> (Single Shock Forks)				<b>PROGRESSIVE WOUND SPRINGS</b> (Single Shock Forks)				<b>CHROME FINISHED SPRINGS</b>					
Rate Lbs./Inch	30	40	78	90	110	120	128	150	80/90	80/100	80/120	80/100	90
Part Number	80 STWD	80 STWD	78 STWD	80 STWD	110 STWD	120 STWD	128 STWD	150 STWD	80/90PR	80/100PR	80/120PR	80/100PR	90 STWD
Color Code	Gold	Light Blue	White	Yellow	Dark Blue	Green	Purple	Pink	Red	Orange	Silver	Green	Red

### SS Shocks (All Street, Paved Road/Track, Dirt Mile and 1/2 Mile Tracks, Short Track etc., Applications)

UP TO 220 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve		80 80 STWD	40/90 80/90PR	40/90 80/90PR	40/90 80/90PR	78 78 STWD	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD
			STD. SOFT STD. SOFT	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.
220 TO 260 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			60/90 80/90PR	60/90 80/90PR	78 78 STWD	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD	90 90 STWD
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.
260 TO 300 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			60/90 80/90PR	78 78 STWD	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	80 80 STWD	90 90 STWD	90/120 90/120PR	90/120 90/120PR
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.
300 TO 340 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			78 78 STWD	78 78 STWD	78 78 STWD	80/100 80/100PR	80/100 80/100PR	80/100 80/100PR	80 80 STWD	90 90 STWD	90/120 90/120PR	110 110 STWD
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT HARD
340 TO 380 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			78 78 STWD	80/100 80/100PR	80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD	90/120 90/120PR	90/120 90/120PR	110 110 STWD	120 120 STWD
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT HARD
380 TO 420 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			80/100 80/100PR	80/100 80/100PR	90 90 STWD	90 90 STWD	90 90 STWD	90/120 90/120PR	90/120 90/120PR	90/120 90/120PR	110 110 STWD	120 120 STWD
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	SOFT/HARD HARD
420 TO 460 LBS.	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve			90 90 STWD	90/120 90/120PR	90/120 90/120PR	110 110 STWD	110 110 STWD	120 120 STWD	120 120 STWD	136 136 STWD	136 136 STWD	150 150 STWD
				STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	STD. SOFT STD. MED.	HARD STD. MED.	HARD STD. MED.	SOFT HARD
460 TO 500 LBS. & OVER	Spring Rate Lbs./Solo Riding Part Number Double Riding Compression (Foot) Valve Rebound (Piston Rod) Valve					110 110 STWD	110 110 STWD	120 120 STWD	120 120 STWD	136 136 STWD	136 136 STWD	150 150 STWD	150 150 STWD
						STD. SOFT STD. MED.	STD. SOFT STD. MED.	SOFT STD. MED.	SOFT STD. MED.	HARD STD. MED.	HARD STD. MED.	HARD HARD	SOFT HARD

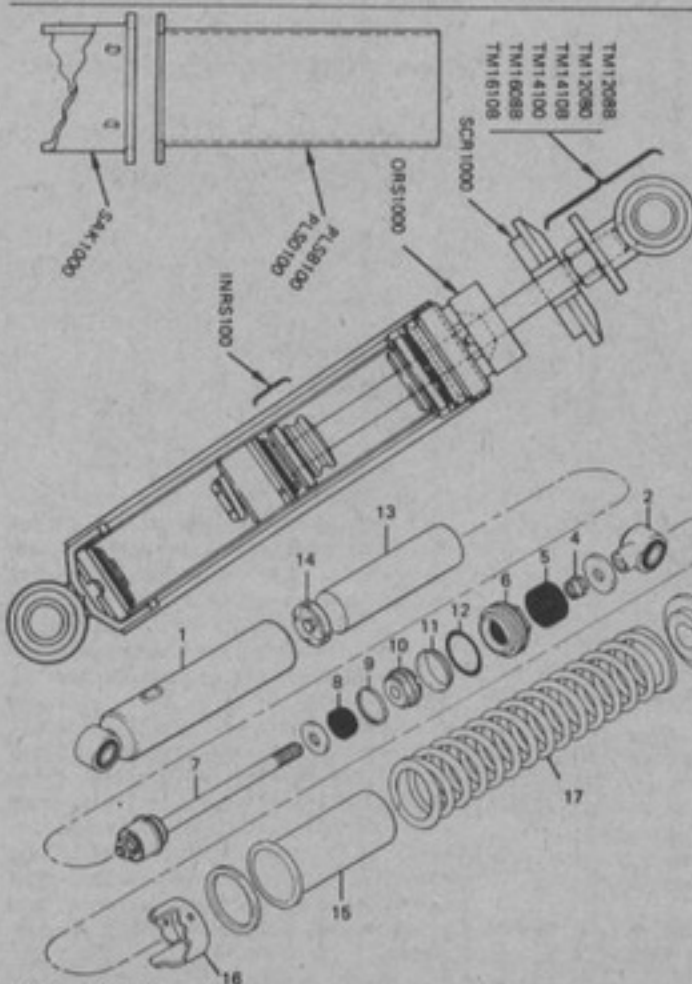
## BOGE SHOCK PRICES

PART NO.	LIST UNIT	DESCRIPTION
<b>SHOCKS</b>		
MX-1075	54.95	MX Shock 10.75"
MX-1175	54.95	MX Shock 11.75"
MX-1225	54.95	MX Shock 12.25"
MX-1300	54.95	MX Shock 13.00"
MX-1350	54.95	MX Shock 13.50"
*MX-1400	54.95	MX Shock 14.00"
SS-1175	54.95	SS Shock 11.75"
SS-1225	54.95	SS Shock 12.25"
SS-1300	54.95	SS Shock 13.00"
SS-1350	54.95	SS Shock 13.50"
*SS12608	54.95	Honda Shock 12.60" - 8mm Clevis
**SS12610	54.95	Honda Shock 12.60" - 10mm Clevis
SS13010	54.95	Honda Shock 13.00" - 10mm Clevis
SS13308	54.95	Honda Shock 13.33" - 8mm Clevis
SS13310	54.95	Honda Shock 13.33" - 10mm Clevis
**SS14020	59.95	Harley Shock
**SS14500	59.95	Harley Shock

Springs are not included in above price of shocks.

### SPRINGS

150-STWD	13.95	Spring/50 Straight/Gold
60-STWD	13.95	Spring/60 Straight/Blue
78-STWD	13.95	Spring/78 Straight/White
90-STWD	15.95	Spring/90 Straight/Yellow
110STWD	16.95	Spring/110 Straight/Brown
120STWD	16.95	Spring/120 Straight/Green
136STWD	16.95	Spring/136 Straight/Purple
*150STWD	16.95	Spring/150 Straight/Pink
6090-PR	13.95	Spring/60/90 Progressive/Red
80100PR	15.95	Spring/80/100 Progressive/Orange
90120PR	15.95	Spring/90/120 Progressive/Silver
*C80100P	20.95	Chrome/80/100 Progressive/Orange
*C90120P	20.95	Chrome/90/120 Progressive/Silver
*C120STW	21.95	Chrome/120 Straight/Green
*C150STW	21.95	Chrome/150 Straight/Pink
**C250STW	26.95	Chrome/250 Straight/Light Blue
SOL-250	1.75	8-oz. Shock Oil - Heavy
SOL-251	1.75	8-oz. Shock Oil - Medium



PART NO.	LIST UNIT	DESCRIPTION
<b>REBUILD ACCESSORIES</b>		
SLNT100	7.50	Seal Nut Assy.
RDGD271	3.95	Rod-Guide
ORNG101	1.00	"O" Ring
ORST102	1.50	Steel "O" Ring Setting
BUHT300	1.50	Bullet Head Tool
USP1004	2.50	Universal Spring Preload Washer

### PISTON RODS

PR-171S	13.95	Piston Rod Assy. - 171mm soft
PR-171M	13.95	Piston Rod Assy. - 171mm medium
PR-171H	13.95	Piston Rod Assy. - 171mm hard
PR-173S	13.95	Piston Rod Assy. - 173mm soft
PR-173M	13.95	Piston Rod Assy. - 173mm medium
PR-173H	13.95	Piston Rod Assy. - 173mm hard
PR-178S	13.95	Piston Rod Assy. - 178mm soft
PR-178M	13.95	Piston Rod Assy. - 178mm medium
PR-178H	13.95	Piston Rod Assy. - 178mm hard
PR-181S	13.95	Piston Rod Assy. - 181mm soft
PR-181M	13.95	Piston Rod Assy. - 181mm medium
PR-181H	13.95	Piston Rod Assy. - 181mm hard
PR-188S	13.95	Piston Rod Assy. - 188mm soft
PR-188M	13.95	Piston Rod Assy. - 188mm medium
PR-188H	13.95	Piston Rod Assy. - 188mm hard

### COMPRESSION VALVES

COV227S	4.00	Compression Valve - Soft
COV227H	4.00	Compression Valve - Heavy

### UNIVERSAL BUSHING KITS

BU12-10	1.50	Bushing Kit Red 12 to 10mm
BU12-08	1.50	Bushing Kit Red 12 to 8mm
BU14-12	1.50	Bushing Kit Red 14 to 12mm
BU14-10	1.50	Bushing Kit Red 14 to 10mm
BU14-08	1.50	Bushing Kit Red 14 to 8mm

\*Available on or before February 28, 1975.

\*\*Available on or before March 31, 1975.

†Exclusive for Minicycle MX-1075 universal.

### SECONDARY PARTS GROUP

PART NO.	LIST UNIT	DESCRIPTION
TM12088	5.95	SS - Top mounts for 8mm dia. piston rod thread
TM12080	5.95	MX - Top mounts for 8mm dia. piston rod thread
TM14108	5.95	SS - Top mount for 10mm dia. piston rod thread
TM14100	5.95	MX - Top mount for 10mm dia. piston rod thread
TM16088	5.95	Honda - Top mount for 8mm dia. piston rod thread
TM16100	5.95	Honda - Top mount for 10mm dia. piston rod thread
SCR1000	2.95	Spring clip retainers - Fits all
ORS1000	1.25	Outer rubber stops - Fits all
SAK1000	4.95	SS - Chrome spring adjusters - 5 way
PLS8100	1.95	SS - Plastic Shock Sleeves - Black
PLS0100	1.95	MX - Plastic Shock Sleeves - Orange
INRS100	1.25	Inner rubber stop - Fits all

ITEM	PART NAME	PART NUMBER
1	SHOCK BODY	SKBY-30
2	SHOCK UPPER MOUNT	14 x 10 BLACK SUM1408 14 x 10 ORANGE SUM1400 12 x 08 BLACK SUM1288 12 x 08 ORANGE SUM1280
3	SPRING RETAINER	SCR-4100
4	SHOCK LOCK NUT ROD/ UPPER MOUNT	LN-11610 (NEW) 11/16 x 10 LN-5008 1/2 x 08
5	OUTER RUBBER STOP	ORS-1731
6	SEAL-NUT ASSEMBLY	SLNT-100
7	PISTON ROD ASSEMBLY	VARIABLE WITH SHOCK SIZE
8	INNER RUBBER STOP	INRS-923
9	INNER WASHER SEAT	INWS-100
10	ROD GUIDE	RDGD-271
11	STEEL "O" RING SETTING	ORST-102
12	"O" RING	ORNG-101
13	INNER VALVE TUBE	VALT-027
14	COMPRESSION VALVE	COV227H COV227S
15	PLASTIC COVER	PLS-4008
16	SHOCK SPRING SEAT PRE- LOAD, 5 POSITIONS (SS SHOCKS)	SSP-606
17	SPRING	VARIABLE UPON SIZE AND RATE