



Koni Features	1
Hydraulic Rebound	2
Koni Adjustability	2
Adjustment Procedures – 30 Series	3
Adjustment Procedures – 88 & 90 Series	3
PRODUCT SPECIFICATIONS	
30 Series Shock	4
88-90 Series Shock	5
91 Series Shock	6
92 Series Shock	6
Steering Stabilizer	7
Load Dependent Damper	7
PRODUCT APPLICATIONS	
Bus & Coach Applications	8-10
Motorhome & Conversion Applications	10-11
Heavy Duty Truck Applications	11-14
Mounting Kit Specifications	15
Shock Specifications By Part Number	16-17
Shock Specifications By Maximum Length	18-19
Piece Parts	20
Limited Warranty	21

KONI FEATURES

300,000 Mile 3 Year Warranty – A Koni Exclusive

Koni technology has produced a superior shock that can take the punishment and keep working. Our warranty is the longest in the industry, and it applies to all vocations.

Ride Quality

Shock absorbers play a major role in road handling, comfort, stability and braking. That is why Koni takes the time to design each shock for the application it will be used on.

Lower Operating Cost

Precision manufacturing processes, high quality materials, special designs, and intensive testing regimes go into all of our shocks. The fact that they last longer than standard shocks makes them less expensive over the long haul.

Complete Customization

Koni has a comprehensive range of over 2,500 types of shocks that fit applications ranging from Motorcycles to 100-ton locomotives. Koni engineers use this range to ensure you get the cor-

rect shock for your application. If you do not see your application listed, call us and we will work with you to Koni equip your fleet.

World Wide Reputation

Koni is known as the shock absorber specialist worldwide. We commit ourselves to delivering the finest quality product with the best performance. This philosophy results in unrivaled durability, superb road performance and maximum customer satisfaction.

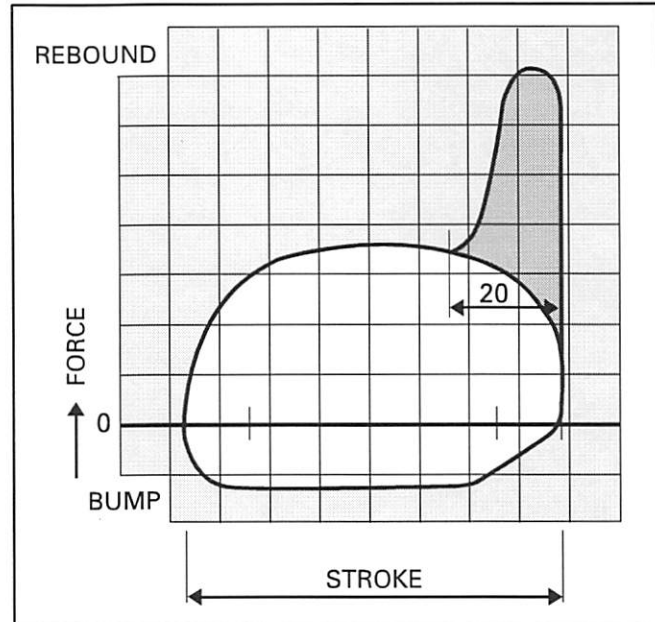


HYDRAULIC REBOUND STOP (88, 90, 91, AND 92 SERIES)

Our hydraulic rebound stop is designed to protect the components of today's low friction suspensions, including the shock mounts, air springs (on an air suspension), and the shocks themselves.

Benefits of Koni Hydraulic Rebound

- No dead length is added to the shock
- Insignificant weight penalty for this feature
- Velocity and position sensitive, which reduces stress on the shock and chassis frame
- Dramatically increases the forces in the last 3/4" (20mm) of travel. This reduces the force at which the piston tops out.



KONI ADJUSTABILITY

Koni shock absorbers have up to 100% reserve damping that can be applied by simple adjustment procedures. Through this adjustment, it is possible to compensate for loss of damping force and lengthen the optimal service life two to three times.

This adjustment feature can also be used to compensate for added weight on a vehicle.

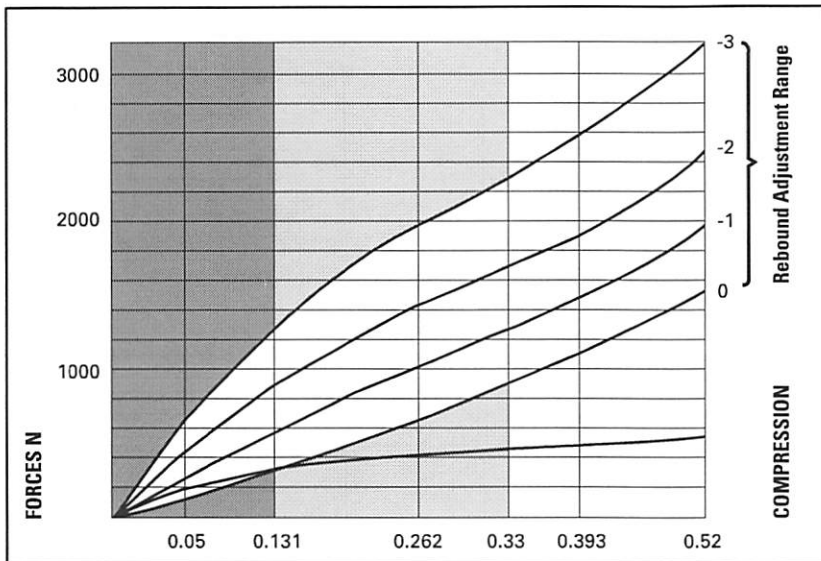
Unique to Koni, each adjustment position represents increased damping forces over the entire force/veloc-

ity range. This feature allows proportionate damping at low and high speeds. Below is a force velocity graph of a Koni shock absorber.

Koni shocks are designed for optimal performance at minimum position, and should be fitted as received. Once you have tested your vehicle, you can modify the damping characteristics as necessary.

Remember that adjustments must always be carried out in pairs. Failure to adjust the shocks the same amount on one axle will lead to problems such as uneven tire wear.

Please follow the procedures on the following page to adjust Koni shock absorbers.





ADJUSTMENT PROCEDURES – 30 SERIES

1. This adjustment is made with the shock fully extended. Remove the plastic dust cover to expose the adjusting button as in figure 1.
2. Hold the damper body by hand where the piston rod emerges from the cylinder. Push the button carefully and hold it in (excessive force is not needed) see fig. 2.
3. The adjusting device operates with four distinct clicks, each of which marks an adjustment position (figure 4).
4. The damper may have already been adjusted, so check to see if it is at minimum position. Gently turn it counterclockwise until a stop is felt. **Do not use force.**
5. To increase rebound, turn the piston rod one or more clicks to the right, and release the adjusting button.
6. Be sure that the adjusting button fully springs back into position. Once the button has retracted, the piston rod may be turned freely, and the damper can be refitted.

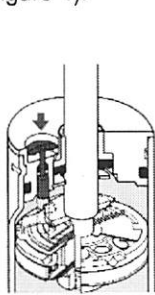


figure 1



figure 2

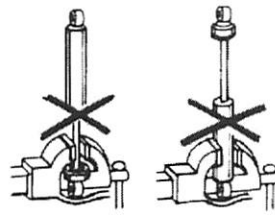


figure 3

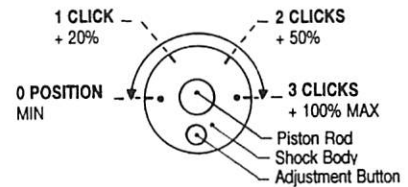


figure 4

ADJUSTMENT PROCEDURES – 88, 90 AND 92 SERIES

In many cases, the twin tube shock can be adjusted while still on the vehicle. Remove the lower mount (you may have to loosen the upper mount), and follow the steps below.

1. Fully collapse the shock absorber while turning it counterclockwise until you feel the cams of the adjusting nut engage in the recesses of the footvalve (figure 1).
2. The damper may have already been adjusted so check to see if it is set at minimum position. Gently turn it counterclockwise, keeping track of half turns, until a stop is felt (figure 2). **Do not use force.**
3. Increase the force in the damper by turning it clockwise in increments of half-turns. If the damper had been previously adjusted, add the number of half turns found in step two (figure 3 & 4).
4. Pull the shock absorber apart vertically without turning for at least 1/2" to disengage the adjusting mechanism. The piston rod may now be turned freely and the shock absorber can be refitted.

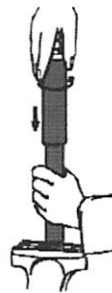


figure 1

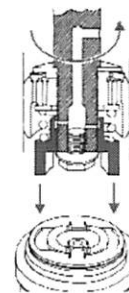


figure 2



figure 3

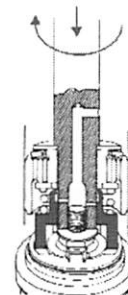
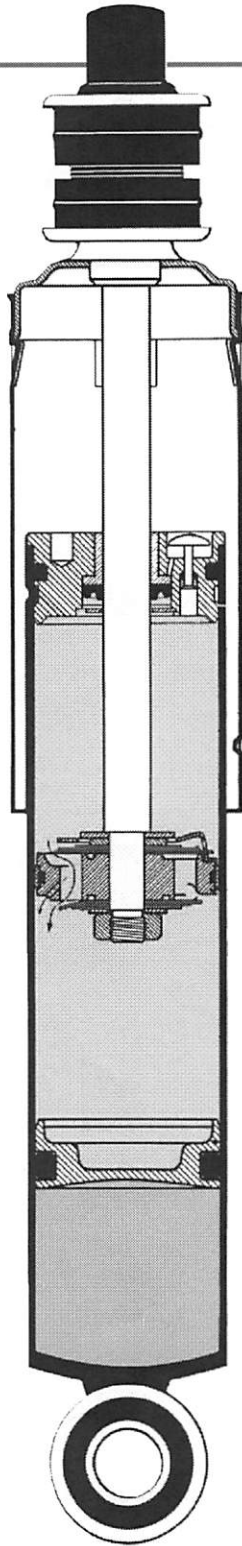


figure 4



30 Series Monotube



The monotube is popular among our racing and automotive customers. It can also be used for medium duty applications such as motorhome and conversion vehicles.

Unique Benefits

- The high gas pressure allows the shock to damp vibrations immediately. This gives the driver enhanced control of the vehicle
- Can be mounted at any angle (including upside-down) due to its unique construction
- Unique adjustability feature allows owner to increase rebound forces manually

Primary Applications

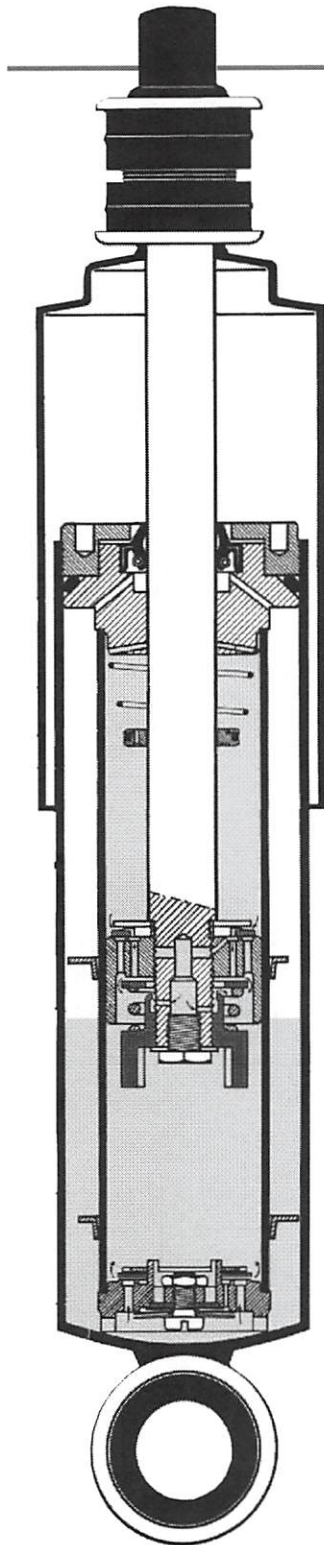
The monotube is most popular in our automobile and light truck offering. We also use it for some motorhome and specialty applications.

Characteristics – 30 Series

CHARACTERISTIC	MEASUREMENT
Primary Application	Light – Medium Duty
Piston Rod	5/8"
Dust Shield	2 1/16"
Reserve Tube	None
Piston Bore	1 13/16"
Adjustable	Yes



88-90 Series Twin Tube



The twin tube is our most popular heavy duty shock absorber. We have developed applications ranging from motorhome to heavy truck to transit with this shock. It is very durable and gives a comfortable yet controlled ride.

Unique Benefits

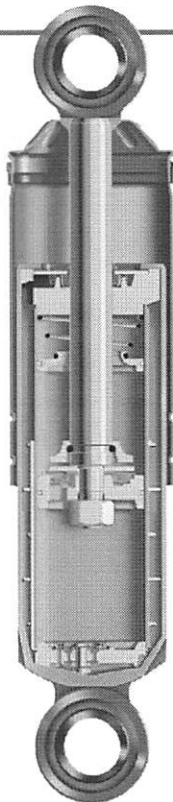
- Independent bump and rebound control allow for high rebound forces without sacrifice of ride quality
- Patented slow-opening foot valve for greater comfort
- Hydraulic rebound stop protects air suspension components
- 100% adjustment of rebound forces possible without use of special tools
- 40% more oil in reservoir than needed for shock to function properly

Primary Applications

These two series of shocks span the entire heavy duty line. You will find applications for class 6-8 trucks, transit buses, over the road coaches, motorhomes, emergency vehicles, and many specialty applications.

Characteristics – Twin Tube Shocks

CHARACTERISTIC	88 SERIES	90 SERIES
Primary Application	Medium – Heavy Duty	Heavy Duty
Piston Rod	11/16	11/16
Dust Shield	2 1/2	3 1/8
Reserve Tube	2 1/8	2 3/4
Piston Bore	1 7/16	1 5/8
Adjustable	Yes	Yes



91 Series Twin Tube

The 91 series shock is designed after our popular 2812 racing damper – only much larger for heavy duty applications.

Unique Benefits

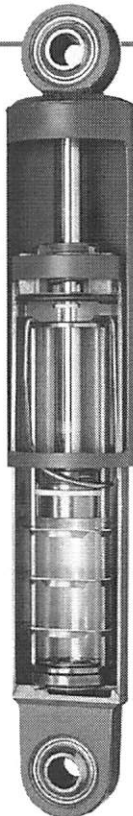
- Has a potential static load capacity of 10 metric tons
- Can handle high working temperatures due to special shock oil and seals
- Can handle high lateral forces due to thick piston rod and rod guide
- Can be mounted horizontally due to special foot valve

Primary Applications

This shock is used on trailers, military, and light rail applications.

Characteristics – 91 Series Shock

CHARACTERISTIC	MEASUREMENT
Primary Application	Heavy - Heavy Heavy
Piston Rod	13/16
Dust Shield	3 1/8
Reserve Tube	2 3/4
Piston Bore	2
Adjustable	No



92 Series Twin Tube

This shock is reserved for heavy-heavy applications.

Unique Benefits

- Special wide body reservoir allows for better heat dissipation
- Large piston bore and rod can generate very high forces
- Robust construction meets military standards world wide

Primary Applications

This shock is used on military, heavy rail, and heavy specialty applications.

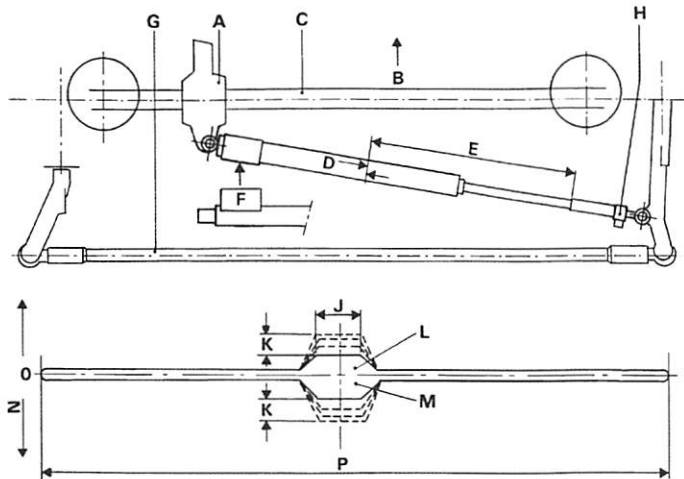
Characteristics – 92 Series Shock

CHARACTERISTIC	MEASUREMENT
Primary Application	Heavy Heavy
Piston Rod	15/16
Dust Shield	3 3/4
Reserve Tube	3 1/4
Piston Bore	1 15/16
Adjustable	yes



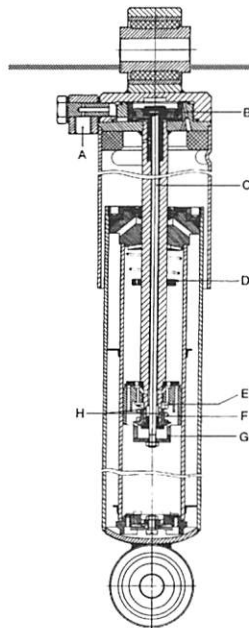
Steering Stabilizer

Our horizontal steering stabilizers eliminate shimmy and improve directional stability, particularly on bad roads and at high speeds. Moreover they help to reduce wear on tires and steering components. The damper functions over a stroke of 2 3/4" (1 3/8" to each side of center position). Steering will not be hampered while cornering and the steering wheel will automatically return to center position without any hindrance (see diagram below).



- A.** Point Of Axle Location
- B.** Driving Direction
- C.** Front Axle
- D.** Center Line
- E.** Adjustment distance
- F.** Top Reservoir
- G.** Tie-Rod End
- H.** Connecting Rod Clamp
- J.** 70 mm Effective Damping
- K.** Manual Adjustment Range
- L.** Extension
- M.** Compression
- N.** Damping Force In Newtons
- P.** Total Stroke Of Steering Damper Or Tie-Rod

Our steering stabilizers are not listed in this catalog. Please call with your specific needs.



- A.** Connection From The Air Bags
- B.** Command Piston
- C.** Command Rod
- D.** Hydraulic Rebound Stop
- E.** Bypass Valve
- F.** Bypass Spring
- G.** Adjusting Sleeve
- H.** Constant Orifices

Load Dependent Damper

Suspension designers are developing more vehicles with very low unladen weights and very high laden weights. Conventional damping characteristics cannot correct for this because the forces are either too high for an empty vehicle or too soft for a laden vehicle.

Koni has developed the load dependent damper to connect to the suspension air bags. These dampers will automatically adjust the rebound damping force due to the varying pressure in the air bags. This will result in optimal comfort and road handling over the entire load range.



Bus and Coach

Vehicle	Year	OEM #	Front	OEM #	Rear
ACF Brill Bus					
37RC			90-1867		
C-27 and C-31 City Bus			90-1868		90-1868
C-36 Bus Serial #1051 on			90-1868		90-1868
C-37M			90-1867		90-1867
IC-41 Intercity Bus to #1088			90-1868		90-1868
Alfa Bus					
Aerodin, Integral, Foraneo			90-2283		88-1597
Beck Bus					
5000 & 6000 Series Mainliner Bus - Spring Susp			90-1868		90-1868
Deck and 1/2 Bus - Spring Susp			90-1868		90-1868
Deck and 1/2 Bus - Air Suspension			90-1951-SP1		90-1951-SP1
Luxury Liner - Spring Suspension			90-1868		90-1868
Mainliner - Air Suspension			90-1951-SP1		90-1951-SP1
Bluebird Bus					
City Bird		614958	90-1868		
		2050516	90-1868		
		614966	90-1896		
				609180	90-1951-SP1
				614974	90-1951-SP1
Q-Bus (leaf suspension)		1658525	88-1422	1746163	
Champion Bus					
Spartan Chassis			90-1943		88-1457-SP1
Crown Coach					
Coaches w/ OE Number		5532036	90-1951-SP1		90-1951-SP1
Models w/ steel spring suspension		3188729	90-2209		90-2209
		5532026	90-1867		90-1867
Den Oudsten (See New Flyer)					
Dina Bus					
Avante			90-2253-SP2		90-1868-SP1
Dorado			90-2253-SP2		90-1868-SP1
Paradiso			90-2253-SP1		90-1868-SP1
tag axle					90-1868-SP4
Viaggio			90-2253-SP1		90-1868-SP1
tag axle					90-1868-SP4
Eagle Bus					
Silver Eagle Bus					
Coaches w/ OE Number		6-055	90-1868	6-055	90-1868
		5394467	90-1898	5394467	90-1898
		70041	90-1898	70041	90-1898
		70039	90-2209		
		01-0100-020	90-1868	01-0100-020	90-1868
		5532026	90-1951-SP1	5532026	90-1951-SP1
		680091	90-2209	680091	90-2209
		01-0100-905	90-2209	01-0100-905	90-2209
Ferroni					
			90-1813-SP1		90-1951-SP1
Fixible Bus					
2 level Intercity			90-1868		90-1868
51 Passenger Bus			90-1868		
51 Passenger Bus w/ Velvet Ride					90-1868
Flyer Industries (see New Flyer)					
Gillig Bus					
Phantom					
30'			90-2164-SP1		88-1607
35'-40'			90-1908-SP1		88-1607
Low Floor					
(except 29')			90-2423		88-1616
GMC Coach					
RTS II Series					
With Solid Axle			90-2433		90-2434
Without Solid Axle					90-2434
TDH 4500, 5300 series			90-2575		90-2576



Vehicle	Year	OEM #	Front	OEM #	Rear
Prevost					
H3 w/ Rigid Axle		630236	90-2572	630234	90-2573
tag axle				630234	90-2573
VIP (H3 w/ IFS)		630235	90-2574	630234	90-2573
tag axle				630234	90-2573
XL w/ IFS		630235	90-2574	630234	90-2573
tag axle				630234	90-2573
XL w/ Rigid Axle		630236	90-2572	630234	90-2573
tag axle				630234	90-2573
XL II w/ IFS		630235	90-2574	630234	90-2573
tag axle				630234	90-2573
Setra					
S215 HDH			90-1490		90-1466
tag axle					90-1466
S217 HDH			90-1490		90-1466
tag axle					90-1466
Sicard					
Models w/ OE Number			90-2575		90-2576
Southern Coach					
Early Model Air Suspension			90-1951-SP1		90-1951-SP1
Late Model Air Suspension			90-1867		90-1867
US Army Coaches			90-1867		90-1867
Twin Coach					
Coaches w/Neway Air Suspension		90044089C			88-1490
		90044162			88-1490
Van Hool					
T815		624314360	88-1509	624314360	88-1509
				624314360	88-1509
T940		624314570	90-2291	624314360	88-1509
				624314570	90-2291
T945		624314570	90-2291	624314360	88-1509
				624314570	90-2291
T2140		624314570	90-2291	624314360	88-1509
				624314570	90-2291
T2145		624314570	90-2291	624314360	88-1509
				624314570	90-2291
Volvo					
MKIII					
B10M low floor (80-88)		1134748	90-1760	1134749	90-1761
B10M high floor		1134748	90-1760SP15	1134749	90-1761SP14
				1136811	90-1768
B10M Articulated		1134748	90-1760SP15	1134749	90-1761SP14
				1134748	90-1760
MKIV					
B10M			90-2088		90-2090

Motorhome and Conversion

Beaver					
Gillig Chassis			90-2164-SP1		
Bluebird					
Wanderlodge					
LX			90-2497		90-1951-SP1
LXI			90-2497		90-1951-SP1
tag axle					88-1639
Chevrolet					
P30 / P32 / P3500	68-99		88-1503		88-1504
G-30 Class C (exc. FWD)	70-94		8240-1013		8240-1014



Vehicle	Year	OEM #	Front	OEM #	Rear
Country Coach					
Affinity					
Neway Suspension					88-1559-SP1
Ridewell Suspension			90-1968-SP1		90-1951-SP1
Neway IFS	99-		88-1641		88-1642
Allure					
Reyco Suspension		16000	88-1458-SP1	16001	88-1457-SP1
Gillig Suspension			90-2164-SP1		
Concept					
Ridewell Suspension			90-1968-SP1		90-1951-SP1
Gillig Suspension			90-2164-SP1		
Neway Suspension					88-1559-SP1
Neway IFS	99-		88-1641		88-1642
Intrigue					
Neway Suspension			88-1490		88-1490
Reyco Suspension		16000	88-1458-SP1	16001	88-1457-SP1
Magna					
Neway IFS	99-		88-1641		88-1642
Ridewell Suspension			90-1968-SP1		90-1951-SP1
MAT					
Ridewell Suspension			90-1968-SP1		90-1951-SP1
Fleetwood					
American Dream					
Reyco/Gillig Suspension			88-1458-SP2		88-1457-SP1
Reyco/Spartan Suspension			88-1458-SP2		88-1457-SP1
Ford					
E-350					
Class C Motorhome	75-91		8240-1029		8240-1030
	92-99				82-2466
E450					
Super Duty	97+				82-2466
Featherlite					
Vogue	- 99				90-1943
tag axle					88-1490
Foretravel					
U-200 Series			88-1546		88-1547
U-280 & U-300 Series			88-1490		88-1490
GMC					
G3500					
Class C-Motorhome (exc. Fwd)			8240-1013		8240-1014
P3500					
Class A-Motorhome			88-1503		88-1504
Navistar					
3400 Conversion Bus					
Velvetride Suspension			88-1646		88-1647

Heavy Duty Truck

Chevrolet

5000 Series					
C, M Chassis Conventional Cab	73-80			22012169	88-1422
C, M Chassis Conventional Cab	73-80			22012096	88-1422
C, S Chassis Conventional Cab	73-80			3192892	88-1422
C, S Chassis Conventional Cab	73-80			22012096	88-1422
9000 Series					
D, F Chassis (54" BBC) Aluminum Tilt Cab		22012065	90-1951-SP1		
		3171069	90-1951-SP1		
		22046483	90-1951-SP1		
D, F Chassis (54" BBC) Aluminum Tilt Cab (with GM air ride suspension)				22012065	90-1951-SP1
				3171069	90-1951-SP1
				22046483	90-1951-SP1
T, W Chassis (72" BBC) Steel Tilt Cab		552452	90-2209		
		22012091	90-2209		
H, J Chassis (92" BBC) Conventional Cab		3171069	90-1951-SP1		
		22046483	90-1951-SP1		
M, N Chassis (114" BBC) Conventional & 108 BBC		22012065	90-1951-SP1		
Aluminum Conventional Cab (w GM Air ride)		3171069	90-1951-SP1	3171069	90-1951-SP1
		22046483	90-1951-SP1	22046483	90-1951-SP1



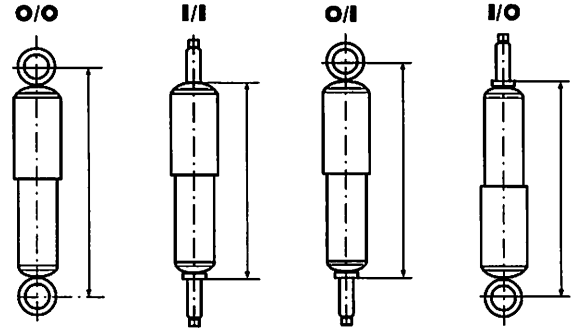
HOW TO MEASURE MAXIMUM / MINIMUM LENGTHS

1. Measure Maximum length according to locations shown. Check specification listing by maximum length to determine correct part.
2. Verify that bushings will work with chart below.
3. For applications other than those shown in the catalog, please contact Koni for assistance.

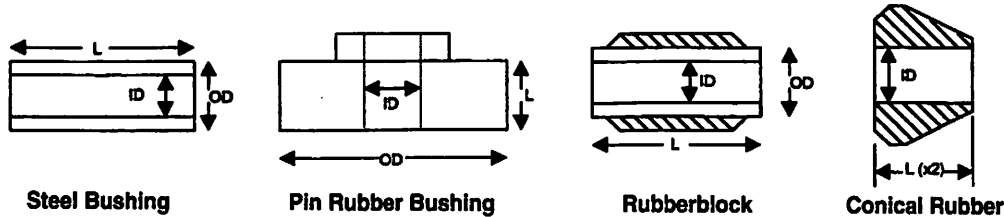
NOTE: Shock absorbers used for applications other than those listed in this catalog are not covered under warranty.

DON'T OVER TORQUE!

Bushings will fail more quickly due to incorrect torque specifications. Be sure to follow the specifications included in our bushing kits.



MOUNTING DIMENSIONS GUIDE



Bushing Kit	Top Kit #	OD	ID	Length	Bottom Kit #	OD	ID	Length	Related Part #
15	15.23.33.002.0		0.75	1.69	15.23.33.002.0		0.75	1.69	
38	15.23.33.008.0		1.00	1.85	15.23.33.008.0		1.00	1.85	
569	70.50.07.108.0		0.79	0.75	70.50.06.109.0		0.79	0.75	
1059	70.52.25.137.0		0.63	3.94	70.52.25.096.0		0.63	2.60	
1200	15.23.34.027.0	1.02	0.75	1.73	15.23.34.027.0	1.02	0.75	1.73	70.52.11.195.0
1387	70.50.08.116.0	2.36	0.79	1.04	70.50.07.117.0	2.36	0.79	1.04	
1499	70.52.25.081.0		0.63	1.97	70.52.25.081.0		0.63	1.97	
1905	70.50.07.725.0	2.36	0.79	1.04	70.50.06.115.0	2.36	0.79	1.04	
1936	70.52.25.250.2		0.79	2.45	70.52.25.250.2		0.79	2.45	
2104	15.23.33.008.0		1.00	1.85	70.50.07.117.0	2.36	0.79	1.04	
2129	15.23.33.008.0		1.00	1.85	70.50.06.115.0	2.36	0.79	1.04	
2133	70.50.08.114.0	2.36	0.79	1.04	70.50.06.115.0	2.36	0.79	1.04	
2172		2.36	0.79	1.04		2.36	0.79	1.04	
2224	70.52.25.156.0		0.75	1.77	70.52.25.156.0		0.75	1.77	
2233	15.23.33.008.0		1.00	1.85		2.36	0.79	1.04	
2234	1106.08.00.20	2.05	0.79	0.91	15.23.33.008.0		1.00	1.85	
2271		2.05	0.79	0.69		2.05	0.79	0.69	
2304	70.52.25.137.0		0.63	3.94	70.52.25.169.2		0.79	1.97	
2322	15.23.34.030.0	0.79	0.57	1.65	15.23.34.030.0	0.79	0.57	1.65	70.52.11.208.0
2341	70.23.33.005.1		1.00	1.73	70.23.33.005.1		1.00	1.73	
2456		2.36	0.79	1.04		2.36	0.79	1.04	
2569	70.50.07.108.0		0.79	0.75	70.52.25.081.0		0.64	1.97	
2585	70.52.25.261.0		1.00	1.97	70.52.25.261.0		1.00	1.97	
2586	70.52.25.261.0		1.00	1.97	70.50.06.115.0	2.36	0.79	1.04	
2587	70.52.25.261.0		1.00	1.97	15.23.34.013.0	0.83	0.75	2.01	70.52.12.077.0
2591	70.50.08.116.0	2.36	0.79	1.04	70.52.25.261.0		1.00	1.97	
2598	70.52.25.141.0		0.63	1.81	70.50.07.117.0	2.36	0.79	1.04	
2637	15.23.33.008.0		1.00	1.85	15.23.33.008.0		1.00	1.85	70.52.11.834.0
2644	70.50.07.888.0	1.8	0.72	1.00	15.23.33.008.0		1.00	1.85	



Specifications By Part Number

Part Number	Bushing Kit	Shock Style	Max	Min	Stroke	Bump (13 ips)	Rebound (13 ips)	Rebound (20 ips)	Hydraulic Rebound	Status*
82-2466		I/O	21.89	13.43	8.46	101	348	607	N	a
84-1168	1200	O/O	17.76	11.73	6.02	67	348	495	N	a
88-1417	15	O/O	26.93	16.65	10.28	101	337	535	N	d
88-1422	2224	O/O	22.52	14.21	8.31	337	1236	1686	N	d
88-1457-SP1	2224	O/O	29.53	17.91	11.61	67	607	832	N	a
88-1458-SP1	2224	O/O	25.67	15.94	9.72	67	450	607	N	a
88-1458-SP2	2224	O/O	25.67	15.94	9.72	135	472	629	N	a
88-1468	2224	O/O	35.04	20.75	14.29	135	585	719	N	d
88-1476	2233	O/I	27.09	16.14	10.94	101	337	535	N	d
88-1490	2224	O/O	21.77	13.98	7.80	101	652	1068	N	a
88-1499	2341	O/O	25.47	15.98	9.49	101	337	535	N	d
88-1503		O/O	14.72	10.16	4.57	135	809	1394	N	i
88-1504	2322	O/O	21.14	13.35	7.80	101	562	1012	N	a
88-1509	1387	I/I	21.57	12.99	8.58	67	1169	1529	N	a
88-1540	2224	O/O	18.82	12.28	6.54	67	697	1012	N	a
88-1541	2224	O/O	14.49	10.12	4.37	67	562	899	N	a
88-1546	2224	O/O	21.77	13.86	7.91	236	1742	2248	N	s
88-1547	2224	O/O	21.77	13.86	7.91	169	1866	2698	N	d
88-1559-SP1	2224	O/O	26.50	16.34	10.16	135	1079	1574	N	d
88-1560	15	O/O	19.68	12.76	6.93	135	787	1124	N	i
88-1561	15	O/O	20.87	13.35	7.52	135	787	1124	N	d
88-1562	1499	O/O	25.79	15.91	9.88	135	809	1124	N	d
88-1570-SP1		O/I	22.91	14.33	8.58	337	899	1281	N	i
88-1607		O/O	20.24	13.58	6.65	67	899	1124	Y	a
88-1616	2224	O/O	21.85	14.33	7.52	67	989	1326	Y	a
88-1632	2637	O/O	24.09	15.43	8.66	101	809	1079	Y	a
LXI - 88-1639 TAO	1200	O/O	17.83	12.01	5.83	101	506	809	Y	a
88-1641	2224	O/O	20.59	13.39	7.20	101	1012	1416	Y	a
88-1642	2224	O/O	21.77	13.98	7.80	45	607	967	Y	a
88-1644	2224	O/O	17.36	11.73	5.63	135	1102	1506	Y	a
88-1646	569	I/I	20.67	12.44	8.23	135	787	1057	N	a
88-1647	2569	I/O	27.28	16.26	11.02				Y	a
88-9941		I/I	33.03	18.98	14.06	67	495	922	N	i
90-1466	1387	I/I	23.50	13.94	9.57	101	1124	2001	N	a
90-1490	1936	O/O	21.97	14.57	7.40	337	1978	2473	Y	a
90-1577-SP1	2271	I/I	19.17	12.20	6.97	202	989	1169	N	a
90-1760-SP15	1955	O/O	24.88	16.18	8.70	506	4609	5283	Y	i
90-1813-SP1	38	O/O	19.84	13.31	6.54	56	1630	2585	N	a
90-1813-SP2	38	O/O	19.84	13.31	6.54	270	2383	2923	N	a
90-1813-SP3	38	O/O	19.84	13.31	6.54	101	731	890	N	a
90-1862	1905	I/I	20.87	12.76	8.11	56	1349	2518	Y	i
90-1867	38	O/O	23.39	15.08	8.31	135	1686	2158	N	d
DRIVE 90-1868	38	O/O	23.31	15.08	8.23	169	1169	1843	N	a
90-1868-SP1	38	O/O	23.31	15.08	8.23	169	1169	1843	N	s
90-1868-SP4	38	O/O	23.31	15.08	8.23	202	1574	2360	N	s
90-1896	38	O/O	22.44	14.68	7.76	101	854	1079	N	a
90-1897	38	O/O	24.80	15.87	8.94	101	652	877	N	i
90-1898	38	O/O	26.54	16.65	9.88	101	585	877	N	a
90-1905	569	I/I	22.44	13.54	8.90	67	1079	1326	Y	a
90-1908-SP1	2586	O/I	20.08	12.95	7.13	101	1304	2023	Y	a
90-1909-SP1	2587	O/O	29.41	18.19	11.22	135	764	1079	Y	a
90-1912	2133	I/I	27.56	16.34	11.22	135	764	1079	N	a
90-1943	38	O/O	23.78	15.28	8.50	202	2923	4721	N	a
90-1943-SP4	2585	O/O	23.86	15.39	8.46	202	2923	4721	N	a
90-1951-SP1	38	O/O	20.63	13.74	6.89	67	1956	3035	N	a
90-1951-SP2	38	O/O	20.63	13.74	6.89	67	1956	3035	N	a
90-1951-SP5	2585	O/O	20.71	13.82	6.89	56	1169	1843	N	a
90-1951-SP6	2585	O/O	20.71	13.82	6.89	67	1956	3035	N	a
STEER 90-1968	38	O/O	19.80	13.31	6.50	169	2765	3372	N	a
90-1968-SP1	2585	O/O	19.92	13.43	6.50	169	2765	3372	N	a
90-1974	2234	I/O	23.86	14.68	9.17	101	652	877	N	i
90-1996	569	I/I	19.68	12.17	7.52	67	899	1259	Y	i
90-2088	2304	O/O	24.84	15.91	8.94	101	899	1079	Y	i



Part Number	Bushing Kit	Shock Style	Max	Min	Stroke	Bump (13 ips)	Rebound (13 ips)	Rebound (20 ips)	Hydraulic Rebound	Status*
90-2090	1059	○/○	25.79	16.50	9.29	67	1057	1293	Y	i
90-2102-SP1	1387	/	20.94	12.76	8.19	67	787	899	Y	a
90-2152	2104	○/	25.71	15.71	10.00	67	1057	1439	N	a
90-2164-SP1	2586	○/	20.28	12.95	7.32	169	2765	3372	N	a
90-2184	2456	/	20.94	12.76	8.19	202	1236	1967	Y	a
90-2209	38	○/○	25.75	16.26	9.49	101	629	787	N	a
90-2251	38	○/○	24.65	15.87	8.78	202	1843	2765	N	s
90-2252	38	○/○	24.65	15.87	8.78	202	944	1315	Y	s
90-2253-SP1	38	○/○	22.52	14.68	7.83	472	1574	2360	N	i
90-2253-SP2	38	○/○	22.52	14.68	7.83	607	2473	3147	N	i
90-2256	38	○/○	22.36	14.68	7.68	169	2473	2923	N	s
90-2257	38	○/○	21.61	14.29	7.32	135	944	1315	Y	s
90-2283	38	○/○	20.63	13.74	6.89	56	2091	3260	N	d
90-2291	1387	/	21.46	12.95	8.50	337	1866	2293	Y	a
90-2325	2598	○/	27.09	16.50	10.59	202	1506	1933	Y	a
90-2326	2598	○/	27.09	16.50	10.59	67	540	663	Y	a
90-2327	2598	○/	31.22	18.46	12.76	202	877	1079	Y	a
90-2366	2591	/○	25.67	15.71	9.96	101	2248		Y	a
90-2367	2591	/○	27.64	16.69	10.94	225	2248		Y	a
90-2423	2586	○/	20.08	12.95	7.13	67	1147	1574	Y	a
90-2433	2644	/○	23.98	14.88	9.09	135	1461	2079	Y	a
90-2434	38	○/○	23.98	15.47	8.50	169	1416	1720	Y	a
90-2472		/○	23.19	14.37	8.82	236	1236	1731	Y	a
90-2473		/○	23.19	14.37	8.82	135	944	1214	Y	a
90-2497	38	○/○	19.80	13.31	6.50	202	2383	2923	N	a
90-2529	1387	/	24.02	14.33	9.69	67	1349	1776	Y	a
90-2530	1387	/	24.02	14.33	9.69	404	1506	2158	Y	a
90-2563	2224	○/○	28.54	17.68	10.87	135	764	1079	Y	a
90-2572	1987	○/○	24.25	15.55	8.70	101	1529	2203	Y	a
90-2573	1987	○/○	24.25	15.55	8.70	67	1079	1281	Y	a
90-2574		○/	22.32	14.02	8.31	135	978	1439	Y	a
90-2575		○/○	25.67	16.38	9.29	101	1394	1675	Y	a
90-2576	2585	○/○	25.55	16.26	9.29	67	944	1349	Y	a
90-2586		/	25.08	15.55	9.53				Y	s
90-2587		○/	21.85	14.09	7.76				Y	s
90-2588	38	○/○	31.85	19.45	12.40				Y	s
90-2589		/	30.75	18.23	12.52				Y	s
90-5055-SP1	2172	/	27.05	15.75	11.30	270	2653	3597	Y	a
90-5055-SP2	2172	/	27.09	15.71	11.38	202	1461	1619	Y	a
92-1282-SP1		/○	27.44	17.24	10.20	674	3372	4069	Y	a

* a = active i = inactive s = special order (100 piece minimum) d = will be discontinued when current stock is depleted



Specifications By Maximum Length

Part Number	Bushing Kit	Shock Style	Max	Min	Stroke	Bump (13 ips)	Rebound (13 ips)	Rebound (20 ips)	Hydraulic Rebound	Status*
88-1541	2224	O/O	14.49	10.12	4.37	67	562	899	N	a
88-1503		O/O	14.72	10.16	4.57	135	809	1394	N	i
88-1644	2224	O/O	17.36	11.73	5.63	135	1102	1506	Y	a
84-1168	1200	O/O	17.76	11.73	6.02	67	348	495	N	a
88-1639	1200	O/O	17.83	12.01	5.83	101	506	809	Y	a
88-1540	2224	O/O	18.82	12.28	6.54	67	697	1012	N	a
90-1577-SP1	2271	I/I	19.17	12.20	6.97	202	989	1169	N	a
88-1560	15	O/O	19.68	12.76	6.93	135	787	1124	N	i
90-1996	569	I/I	19.68	12.17	7.52	67	899	1259	Y	i
90-1968	38	O/O	19.80	13.31	6.50	169	2765	3372	N	a
90-2497	38	O/O	19.80	13.31	6.50	202	2383	2923	N	a
90-1813-SP1	38	O/O	19.84	13.31	6.54	56	1630	2585	N	a
90-1813-SP2	38	O/O	19.84	13.31	6.54	270	2383	2923	N	a
90-1813-SP3	38	O/O	19.84	13.31	6.54	101	731	890	N	a
90-1968-SP1	2585	O/O	19.92	13.43	6.50	169	2765	3372	N	a
90-1908-SP1	2586	O/I	20.08	12.95	7.13	101	1304	2023	Y	a
90-2423	2586	O/I	20.08	12.95	7.13	67	1147	1574	Y	a
88-1607		O/O	20.24	13.58	6.65	67	899	1124	Y	a
90-2164-SP1	2586	O/I	20.28	12.95	7.32	169	2765	3372	N	a
88-1641	2224	O/O	20.59	13.39	7.20	101	1012	1416	Y	a
90-1951-SP1	38	O/O	20.63	13.74	6.89	56	1169	1843	N	a
90-1951-SP2	38	O/O	20.63	13.74	6.89	67	1956	3035	N	a
90-2283	38	O/O	20.63	13.74	6.89	56	2091	3260	N	d
88-1646	569	I/I	20.67	12.44	8.23	135	787	1057	N	a
90-1951-SP5	2585	O/O	20.71	13.82	6.89	56	1169	1843	N	a
90-1951-SP6	2585	O/O	20.71	13.82	6.89	67	1956	3035	N	a
88-1561	15	O/O	20.87	13.35	7.52	135	787	1124	N	d
90-1862	1905	I/I	20.87	12.76	8.11	56	1349	2518	Y	i
90-2102-SP1	1387	I/I	20.94	12.76	8.19	67	787	899	Y	a
90-2184	2456	I/I	20.94	12.76	8.19	202	1236	1967	Y	a
88-1504	2322	O/O	21.14	13.35	7.80	101	562	1012	N	a
90-2291	1387	I/I	21.46	12.95	8.50	337	1866	2293	Y	a
88-1509	1387	I/I	21.57	12.99	8.58	67	1169	1529	N	a
90-2257	38	O/O	21.61	14.29	7.32	135	944	1315	Y	s
88-1490	2224	O/O	21.77	13.98	7.80	101	652	1068	N	a
88-1546	2224	O/O	21.77	13.86	7.91	236	1742	2248	N	s
88-1547	2224	O/O	21.77	13.86	7.91	169	1866	2698	N	d
88-1642	2224	O/O	21.77	13.98	7.80	45	607	967	Y	a
88-1616	2224	O/O	21.85	14.33	7.52	67	989	1326	Y	a
90-2587		O/I	21.85	14.09	7.76				Y	s
82-2466		I/O	21.89	13.43	8.46	101	348	607	N	a
90-1490	1936	O/O	21.97	14.57	7.40	337	1978	2473	Y	a
90-2574		O/I	22.32	14.02	8.31	135	978	1439	Y	a
90-2256	38	O/O	22.36	14.68	7.68	169	2473	2923	N	s
90-1896	38	O/O	22.44	14.68	7.76	101	854	1079	N	a
90-1905	569	I/I	22.44	13.54	8.90	67	1079	1326	Y	a
88-1422	2224	O/O	22.52	14.21	8.31	337	1236	1686	N	d
90-2253-SP1	38	O/O	22.52	14.68	7.83	472	1574	2360	N	i
90-2253-SP2	38	O/O	22.52	14.68	7.83	607	2473	3147	N	i
88-1570-SP1		O/I	22.91	14.33	8.58	337	899	1281	N	i
90-2472		I/O	23.19	14.37	8.82	236	1236	1731	Y	a
90-2473		I/O	23.19	14.37	8.82	135	944	1214	Y	a
90-1868	38	O/O	23.31	15.08	8.23	169	1169	1843	N	a
90-1868-SP1	38	O/O	23.31	15.08	8.23	169	1169	1843	N	s
90-1868-SP4	38	O/O	23.31	15.08	8.23	202	1574	2360	N	s
90-1867	38	O/O	23.39	15.08	8.31	135	1686	2158	N	d
90-1466	1387	I/I	23.50	13.94	9.57	101	1124	2001	N	a
90-1943	38	O/O	23.78	15.28	8.50	202	2923	4721	N	a
90-1943-SP4	2585	O/O	23.86	15.39	8.46	202	2923	4721	N	a
90-1974	2234	I/O	23.86	14.68	9.17	101	652	877	N	i
90-2433	2644	I/O	23.98	14.88	9.09	135	1461	2079	Y	a
90-2434	38	O/O	23.98	15.47	8.50	169	1416	1720	Y	a

STAIR

DRIVE

DRIVE



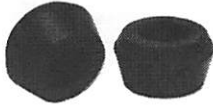
Part Number	Bushing Kit	Shock Style	Max	Min	Stroke	Bump (13 ips)	Rebound (13 ips)	Rebound (20 ips)	Hydraulic Rebound	Status*
90-2529	1387	I/I	24.02	14.33	9.69	67	1349	1776	Y	a
90-2530	1387	I/I	24.02	14.33	9.69	404	1506	2158	Y	a
88-1632	2637	O/O	24.09	15.43	8.66	101	809	1079	Y	a
90-2572	1987	O/O	24.25	15.55	8.70	101	1529	2203	Y	a
90-2573	1987	O/O	24.25	15.55	8.70	67	1079	1281	Y	a
90-2251	38	O/O	24.65	15.87	8.78	202	1843	2765	N	s
90-2252	38	O/O	24.65	15.87	8.78	202	944	1315	Y	s
90-1897	38	O/O	24.80	15.87	8.94	101	652	877	N	i
90-2088	2304	O/O	24.84	15.91	8.94	101	899	1079	Y	i
90-1760-SP15	1955	O/O	24.88	16.18	8.70	506	4609	5283	Y	i
90-2586		I/I	25.08	15.55	9.53				Y	s
88-1499	2341	O/O	25.47	15.98	9.49	101	337	535	N	d
90-2576	2585	O/O	25.55	16.26	9.29	67	944	1349	Y	a
88-1458-SP1	2224	O/O	25.67	15.94	9.72	67	450	607	N	a
88-1458-SP2	2224	O/O	25.67	15.94	9.72	135	472	629	N	a
90-2366	2591	I/O	25.67	15.71	9.96	101	2248		Y	a
90-2575		O/O	25.67	16.38	9.29	101	1394	1675	Y	a
90-2152	2104	O/I	25.71	15.71	10.00	67	1057	1439	N	a
90-2209	38	O/O	25.75	16.26	9.49	101	629	787	N	a
88-1562	1499	O/O	25.79	15.91	9.88	135	809	1124	N	d
90-2090	1059	O/O	25.79	16.50	9.29	67	1057	1293	Y	i
88-1559-SP1	2224	O/O	26.50	16.34	10.16	135	1079	1574	N	d
90-1898	38	O/O	26.54	16.65	9.88	101	585	877	N	a
88-1417	15	O/O	26.93	16.65	10.28	101	337	535	N	d
90-5055-SP1	2172	I/I	27.05	15.75	11.30	270	2653	3597	Y	a
88-1476	2233	O/I	27.09	16.14	10.94	101	337	535	N	d
90-2325	2598	O/I	27.09	16.50	10.59	202	1506	1933	Y	a
90-2326	2598	O/I	27.09	16.50	10.59	67	540	663	Y	a
90-5055-SP2	2172	I/I	27.09	15.71	11.38	202	1461	1619	Y	a
88-1647	2569	I/O	27.28	16.26	11.02				Y	a
92-1282-SP1		I/O	27.44	17.24	10.20	674	3372	4069	Y	a
90-1912	2133	I/I	27.56	16.34	11.22	135	764	1079	N	a
90-2367	2591	I/O	27.64	16.69	10.94	225	2248		Y	a
90-2563	2224	O/O	28.54	17.68	10.87	135	764	1079	Y	a
90-1909-SP1	2587	O/O	29.41	18.19	11.22	135	764	1079	Y	a
88-1457-SP1	2224	O/O	29.53	17.91	11.61	67	607	832	N	a
90-2589		I/I	30.75	18.23	12.52				Y	s
90-2327	2598	O/I	31.22	18.46	12.76	202	877	1079	Y	a
90-2588	38	O/O	31.85	19.45	12.40				Y	s
88-9941		I/I	33.03	18.98	14.06	67	495	922	N	i
88-1468	2224	O/O	35.04	20.75	14.29	135	585	719	N	d

* a = active i = inactive s = special order (100 piece minimum) d = will be discontinued when current stock is depleted



Part Number O.D. I.D. Length Related Parts Application Information

CONICAL RUBBER



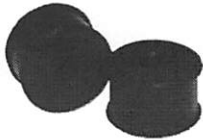
15.23.33.002.0		.075	1.69		Each Eye requires two bushings. Do not over-torque. Tighten to recommended length only.
15.23.33.008.0		1.00	1.85		
70.23.33.005.1		1.00	1.73		

RUBBERBLOCK



70.52.25.081.0		0.63	1.97		
70.52.25.141.0		0.63	1.81		
70.52.25.156.0		0.75	1.77		
70.52.25.261.0		1.00	1.97		

RUBBER BUSHING



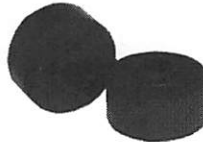
15.23.34.013.0				70.52.12.077.0	Requires steel bushing insert.
15.23.34.027.0				70.52.11.195.0	
15.23.34.030.0				70.52.11.208.0	

STEEL BUSHING INSERT



70.52.11.195.0	1.02	0.75	1.75	15.23.34.027.0	Eye adapter used with rubber bushings.
70.52.11.208.0	0.79	0.57	1.65	15.23.34.030.0	
70.52.12.077.0	0.83	0.75	2.01	15.23.34.013.0	

PIN TYPE BUSHING



15.23.31.041.0	2.36	0.79	1.04	See Complete Kits On Page 20	90 Series Shock
15.23.31.087.0	2.05	0.79	0.91		88 Series Shock
15.23.31.122.0	2.36	0.79	0.69		90 Series Shock

PISTON SLEEVE



70.52.11.002.0					Needed for top pin mount to accept rubber bushing.
70.52.25.008.0					

LOCK NUT M16



Part Number
1037.94.16.16

CENTERING RING



Part Number
70.51.02.016.1

PLASTIC NUT CAP



Part Number
15.23.24.001.0

CLAMPING PLATE



Part Number
70.51.03.049.2

ACRYLIC SHOCK



Part Number	Lengths	Application
1030.10.29.00	IMax 15", IMin 10.5"	Great Training Resource