



## Spax Dampers

Spax patented on car adjustable shock absorbers and have been supplying upgraded suspension to Manufacturers, Race Teams, Restorers and Enthusiasts since the 1960's.

Our global network of OEM's, dealers and specialist mechanics supply on-car adjustable dampers to upgrade original equipment and help accurately tune suspension, allowing our customers to drive with increased confidence on the roads, and win on the track.

## KSX Customer Specified Telescopic Damper Range

Our gas pressurized custom telescopic dampers have been developed for customers who require bespoke dampers for special or non-standard applications. When building, modifying and converting cars our KSX dampers provide the solution if the suspension architecture has been altered from original settings or is being developed to suit the characteristics of a particular vehicle.

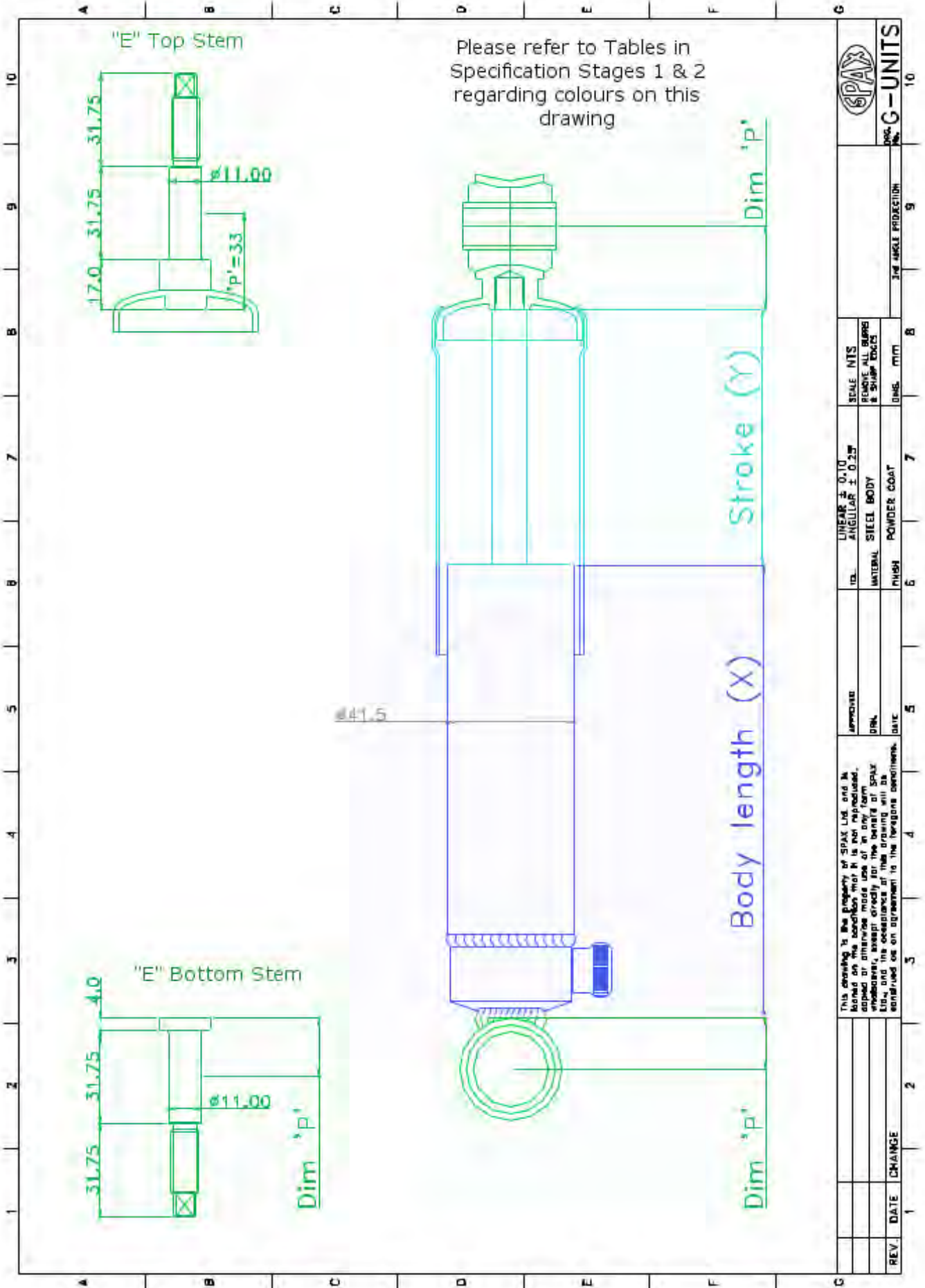
All KSX shock absorbers provide, on-car, adjustable ride settings, changing damping stiffness via a body mounted adjuster knob in 28 steps to ensure users can tune suspension to the optimum settings required for the car, driving style and road conditions. The adjustment changes both the bump and rebound forces in unison.

This range has over 8000 potential part numbers, providing a huge choice of top and bottom fixings, body and stroke lengths and bumpstops, as required. The probability is we have a damper for you!

The basic principle of the KSX range is to allow customers to create their own specification for each damper, which is then individually hand, built to the chosen selection by our technicians in Bicester, Oxfordshire. All dampers are powder coated ensuring great cosmetic looks and excellent corrosion resistance.



# Spax KSX Telescopic Damper Configuration Drawing



Please refer to Tables in Specification Stages 1 & 2 regarding colours on this drawing

REV. DATE CHANGE		3		4		5		6		7		8		9		10	
This drawing is the property of SPAX Ltd. and is loaned on the condition that it is not reproduced, altered, copied or used in any way without the written consent of SPAX Ltd. and its acceptance of this drawing will be construed as an agreement to the foregoing conditions.		APPROVED DRN.		DATE		MATERIAL STEEL BODY FINISH POWDER COAT		DIM. UNIT DIM. MM		SCALE INTS FINISH ALL DIMS & SHIP BOOTS		3rd ANGLE PROJECTION		SPAX		PAGE G-UNITS	

Designing a bespoke Damper to create your Spax Part number (Please refer to drawing on page 2)

There are 4 simple stages to designing your own damper. Please follow these stages in order, if you are looking to replace your existing shock absorber then you may find it useful to have it, off the car to take measurements, when specifying this up-rated, adjustable, replacement.

These telescopic dampers cost £139.99 each and will usually be manufactured in one week following receipt of your order.

Stage 1:

Choose the top and bottom fixings required to fit the dampers to the car. The selections will form the second part of your KSX Part Number but this is the first decision to be made in specifying the part.

Stage 1 Part Number	Description	Length mm (inch)	Bore mm (inch)	Dim 'P'	
				Top	Bottom
D	Spherical Bearing *	12	12.8 (1/2")	30 mm	17.5 mm
E	Stem (standard)	See configuration drawing on Page 2		33 mm	20 mm
F	"Silent block" Bush	28	16.0 (5/8")	34 mm	21 mm
K	Diablo split Bush	–	16.0 (5/8")	30 mm	18 mm
N	Bush + Sleeve	31.8 (1 1/4")	8.0 (5/16")	30 mm	18 mm
M	Bush + Sleeve	31.8 (1 1/4")	9.5 (3/8")	30 mm	18 mm
P	Bush + Sleeve	31.8 (1 1/4")	10.0	30 mm	18 mm
R	Bush + Sleeve	31.8 (1 1/4")	11.2 (7/16")	30 mm	18 mm
T	Bush + Sleeve	31.8 (1 1/4")	12.0	30 mm	18 mm
V	Bush + Sleeve	31.8 (1 1/4")	12.7 (1/2")	30 mm	18 mm

\* Note: option D (Spherical Bearings) are supplied at an additional cost of £10 per end, they have a 15mm internal diameter bearing fitted with a removable 1/2" (12.7mm) sleeve

Stage 2:

Select the body and stroke lengths you require

Stage 1 Part Number	Dim (X) (mm)	Stroke (Y) (mm) (inch)		Open length of damper with "N" fixings top and bottom		Closed length of damper excluding bumpstop	
		mm	inch	mm	inch	mm	inch
K30	158	75	3.0"	280	11.0"	205	8.0"
K35	173	90	3.5"	310	12.2"	220	8.7"
K40	183	100	4.0"	330	13.0"	230	9.1"
K45	198	115	4.5"	360	14.2"	245	9.6"
K50	208	125	5.0"	380	15.0"	256	10.0"
K55	223	140	5.5"	410	16.1"	270	10.6"
K60	233	150	6.0"	430	17.0"	280	11.0"
K65	248	165	6.5"	460	18.1"	295	11.6"
K70	263	180	7.0"	490	19.3"	310	12.2"
K75	273	190	7.5"	510	20.1"	320	12.6"
K80	288	205	8.0"	540	21.3"	335	13.2"
K85	298	215	8.5"	560	22.0"	345	13.6"
K90	313	230	9.0"	590	23.2"	360	14.2"
K95	323	240	9.5"	610	24.0"	370	14.6"

Stage 3:  
Select the bumpstop length you require

Part Number	Spring Seat ID
0	No bumpstop required
1	27 mm long
2	45 mm long
3	60 mm long

#### Stage 4

Now build up the part number based on the selections made in designing your KSX Damper

Body / Stroke Lengths	Top fixing	Bottom fixing	Bumpstop
Stage 2 Choice	Stage 1 Choice	Stage 1 Choice	Stage 3 Choice

### Example

If given a KSX Part Number K50M1 we would build a Damper according to the specification below;

Stage 2 Part Number	Stage 1 TOP Part Number	Stage 1 BOTTOM Part Number	Stage 3 Part Number
K50	E	M	1
Damper with Body Length = 208mm  and Stroke Length = 125mm	Damper with Stem type Top Fixing  <b>"P" Dim to measure</b> open / closed lengths = 33mm  (per drawing on page 2)	Damper with Bush and Sleeve type Bottom Fixing  <b>"P" Dim to measure open</b> / closed lengths = 18mm  (per Stage 1 Table)	Damper fitted with Bumpstop 1  (27mm long per Stage 3 table)

The standard for specifying dampers is to quote open and closed lengths and measure from the centre of the top fixing to the centre of the bottom fixing as fitted to car, hence our quoting "Dim P" lengths.

The above example would give a damper with an Open Length of  
"X (Body Length) + P (Top fixing) + P (Bottom Fixing) + Stroke = 208 + 33 + 18 + 125 = 384 mm"

And a Closed Length (at bumpstop contact) of  
"Open Length - Stroke (Y) + Bumpstop = 384 - 125 + 27 = 286 mm"