

How to select Pillowball Nut and Pillowball Collar

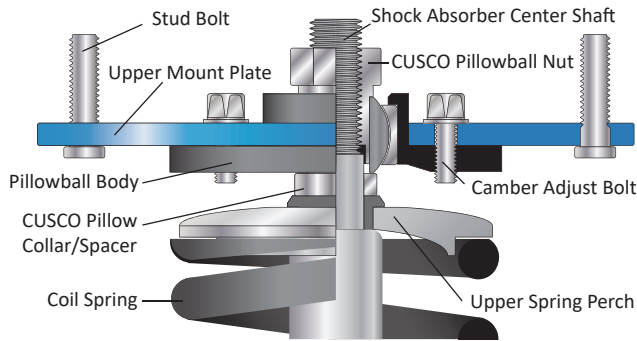


Fig.1 Image of Assembly of Strut-type CUSCO Upper Mount

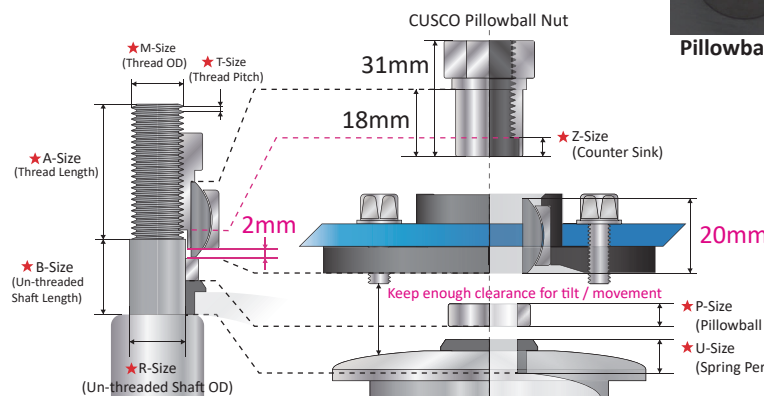


Fig.2 Size/Location of CUSCO Upper Mount Components

To select the right size of Nut and Collar is very important key for your safety and functioning properly.

This is basic procedure how to select the right size of Nut and Collar.

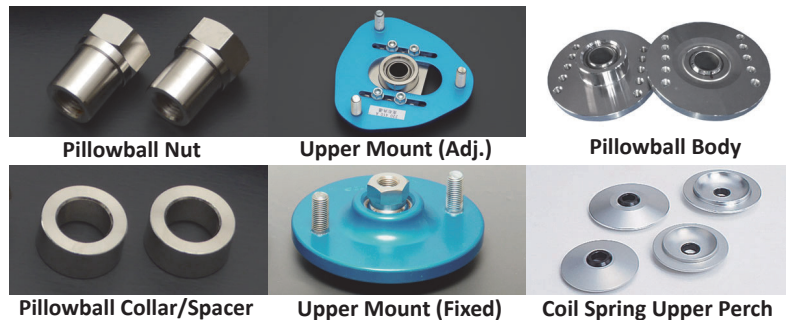


Fig.3 Require both Upper & Lower Collars in case of B-Size area was wide.

[Basic Procedure - How to select right size of Nut and Collar]

	Position	Key Note	Basic Procedure of Nut / Collar Selection	Memo (mm)
A	Threaded Length - Possible to tighten the Nut			A=
B	Un-threaded Length			B=
M	Thread Size	Pillowball Nut Thread OD (mm)	Check M10 / 12 / 14 (mm)	M= <Upper Collar ID
T	Thread Pitch	Pillowball Nut Thread Pitch (mm)	Check P1.0 / P1.2 / P1.5 (mm)	P=
R	Shaft OD - Un-threaded	Pillow Collar ID (mm)	Select larger ID than R (Ex. 10.5mm if R=10.0mm)	Lower Collar ID >
U	Spring Perch Height	Collar Height / Nut Countersink	Measure at Center of Spring Perch (Depth)	U=
P	Collar Height - Min. 5mm	Determine B / U / Z size	No Countersink: P=B-U / Countersink: P≥B-U-Z	P= > 5mm
Z	Countersink	Determine B / U / P size	Z≥B-U-P	Z≥

★ How to select Lower Pillow Collar

- **ID (Inside Diameter):** Select larger Collar ID than un-threaded Shaft OD (R)
- **Top Shape:** Select more than 20mm OD Flat Collar - Pillowball ID=18mm
- **Bottom Shape:** This surface sits on Upper Spring Perch and carefully select the OD to cover the area enough on Upper Spring Perch or OE Upper Mount. If the upper mount is Non-Camber Adjustable type and the spring sits on Upper Mount Plate directly (Fig.3), please select the collar and shape enough to cover B (Un-threaded area) to fill the gap if needed. If the gap is not filled enough, it may cause to making noise and damage the shock absorber.
- **Height / Thickness (P):** This is important to select the right height / thickness for "Camber Adjustable Type" Upper Mount. When the suspension moves up/down or adjusted the camber angle, the strut will make the angle. It requires to maintain minimum 5mm clearance between Upper Mount and Upper Spring Perch at maximum tilt angle. (Not apply to Fig.3 type) So, please select the collar height carefully to have enough clearance. Nut with Countersink type is for the strut shaft which does not have enough threaded area and have the minimum collar height.

★ How to select Upper Pillowball Collar (If Pillow Nut cannot be used - Fig.3 Type)

If Un-threaded area (B) is wide and Threaded is short as showing Fig.3, Pillowball Nut cannot be used with Upper Mount. In this case, use both lower and upper collars and tighten with Flange Nut from top. Please measure the height of collars to have enough threads.

- **ID (Inside Diameter):** Select ID of collar slightly larger than Shaft OD.
- **Top Shape:** Use Flat shape of collar to tighten from Top with Flange Nut as showing Fig.3. (Flange Nuts are NOT included in the kit) Ex.) If thread is M14(mm), select larger ID of collar than 14.0mm
- **Bottom Shape:** Select the right shape (T-Shape - Red area in Fig.3) to fill the gap between Shaft OD and Pillowball ID (18mm).

★ How to select Pillowball Nut

- Check thread OD (M10 / M12 / M14) and Pitch (1.0mm / 1.25mm / 1.5mm) of shock absorber first.
- How to calculate Countersink (Z): Z=B-U-P (Fig.2) - This can help to have enough thread area of strut shaft on top.