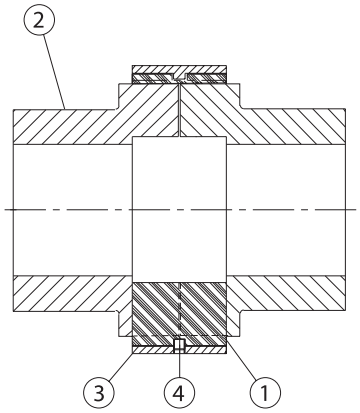
A##C & A##S

A SERIES ELASTOMERIC COUPLINGS

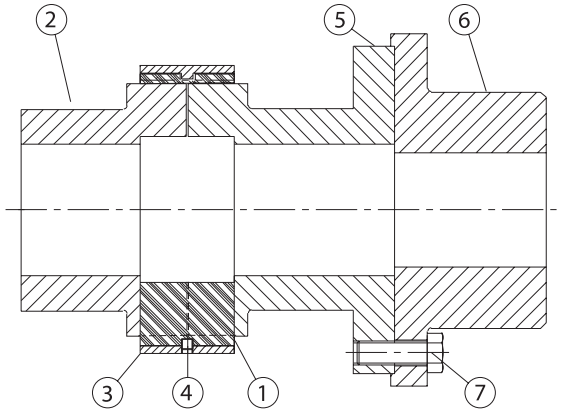
Fitting & Maintenance Instructions

FIGURE 1A. Close-coupled Option A##C



1 – Flexible insert
2 – Close-coupled hub
3 – Retaining ring
4 – Retainer set screw
5 – Spacer (S option)
6 – Hub (S option)
7 – Stripper bolt (S option)

FIGURE 1B. Spacer Option A##S



Foreword

These instructions are provided to familiarize the user with the coupling and its designated use. These instructions must be read and applied whenever work is carried out on the coupling and must be kept available for future reference.

ATTENTION These instructions are for the fitting, operation and maintenance of the coupling as used in rotating equipment and will help to avoid danger and increase reliability. The information required may change with other types of equipment or installation arrangements. These instructions must be read in conjunction with the instruction manuals for both the driver and driven machinery.

If the coupling is to be used for an application other than that originally intended or outside the recommended performance limits, John Crane must be contacted before its installation and use.

Any warranty may be affected by improper handling, installation or use of this coupling. Contact the company for information as to exclusive product warranty and limitations of liability.

If questions or problems arise, contact your local John Crane sales/service engineer or the original equipment manufacturer as appropriate.

ATTENTION John Crane couplings are precision products and must be handled appropriately. Take particular care to avoid damage to pilots, mating faces, hub bores, keyways and insert.

These instructions are written for standard catalog products, generally designed in accordance with the drawing shown.

Safety Instructions

The following designations are used in the installation instructions to highlight instructions of particular importance.

IMPORTANT is used for items of particular concern when using the coupling.

ATTENTION where there is an obligation or prohibition concerning the avoidance of risk.

where there is an obligation or prohibition concerning harm to people or damage to the equipment.

A##C & A##S

A SERIES ELASTOMERIC COUPLINGS

Fitting & Maintenance Instructions

Preparation

John Crane's Powerstream couplings are available in many sizes and types. Check prior to any installation that the correct parts are on hand and as ordered. Type A close-coupled couplings include two close-coupled hubs (with lug extensions), flexible insert, retaining ring and setscrews. Type A spacer couplings include one close-coupled hub (with lug extensions), one hub (flanged), spacer, bolts with washers, flexible insert, retaining ring and setscrews. Inspect all components and remove any protective coatings from the bores, etc. Remove any burrs or dirt from the shafts or bores.

Storage

If the coupling is not to be used immediately, it should be stored away from direct heat in its original packing. All documentation supplied with the coupling should be retained for future reference.

Spares

When requesting spares, always quote the full designation of the coupling. The following spares can be purchased from John Crane:

- Flexible inserts (ref. 1)
- Retaining ring with setscrews (ref .3, 4)
- Hubs, bored to your requirement or unbored (ref. 2, 6)
- Spacer (ref. 5)
- Set of stripper bolts (ref. 7)

Installation

Remove coupling from packaging and carefully inspect for signs of damage. Pay particular attention to the hub bores and the pilot/recess location features, which should be free from burrs and other damage.

Installation of hubs

Prior to installing the coupling, ensure that the machinery is made safe. Hubs must be adequately supported during installation to avoid accidental damage should they slip.

1. Ensure the hub bore and mating shaft are clean.
2. Determine the fit required for your application (i.e. clearance or interference). The hubs are suitable for both interference and clearance fits. For interference fits, we recommend heating the hubs in oil or an oven and quickly positioning on shafts (do not use spot heat or exceed 350˚F / 175˚C as this may cause hub distortion). Shaft ends should be flush with the hub face at bottom of lug extensions unless longer or shorter than standard distance between shaft ends (DBSE) is planned for. In which case, refer to drawing indicating the amount that the hubs should be mounted offset from the shaft ends in order to obtain dimension E (see alignment).
3. Tighten setscrews when clearance fits are used or tighten screws when using intermediate bushings.

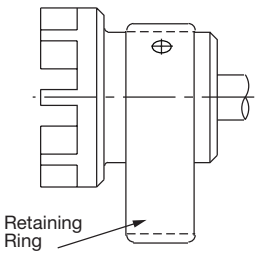
A Series close-coupled type C

- Fit the first close-coupled hub as above and slip the retaining ring (3) over the installed hub.
- Fit the second close-coupled hub.

A Series spacer type S

- Fit the first close-coupled hub as above and slip the retaining ring (3) over the installed hub.
- Fit the flanged hub (6). Shaft end should be flush with the hub face.
- Supporting the spacer (5), locate the spacer flange to the hub pilot and insert the stripper bolts (7) and tighten evenly to the tightening torque in Table 1.

FIGURE 2.
Retainer Ring Installation



IMPORTANT Prior to installation of a second close-coupled hub or spacer, make sure the retaining ring is placed over the hub or shaft.

TABLE 1. Tightening Torque for Spacer Hub Stripper Bolts

Coupling	Bolt Size	Nm	lb.ft	Spanner A/F	Allen Key (Hex. Socket)
A01S	M8	19	14	13 mm	-
A02S	M8	19	14	13 mm	-
A03S	M10	54	40	-	8 mm
A04S	M12	100	74	-	10 mm
A05S	M12	100	74	-	10 mm
A06S	M16	232	171	-	14 mm

A##C & A##S

A SERIES ELASTOMERIC COUPLINGS

Shaft Alignment

Because the fitting of coupling components might require one machine to be moved, shaft alignment must be done during assembly of the coupling, when indicated.

Align the center lines of the driving and driven machine shafts as follows:

- Move the equipment into position
- Check for any soft foot and correct before commencing alignment.

Your local John Crane representative can offer alignment equipment. Generally, shaft alignment should be within one quarter of the maximum allowable misalignments specified in Table 2. The following procedures are an alternate method to obtain the alignment requirements.

Radial or offset

Align the shafts so that a straight edge rests squarely and parallel with the lugs on each close-coupled hub (or close-coupled hub and spacer). Check with feeler gauges insuring that any clearance does not exceed the offset limits specified in Table 2.

Axial and angular

Using a spacer bar and feeler gauge, measure the clearance between the hubs at 0, 90, 180 and 270 degrees. The difference in measurements must not exceed values given for angular tolerance below. The average of the readings should be within the between lugs dimension 'E' as specified in Table 2. As a further check, at the minimum gap location, install the insert and check the clearance between the insert and the hub; it should be approximately the axial value given in Table 2.

FIGURE 3A. Check For Axial Alignment

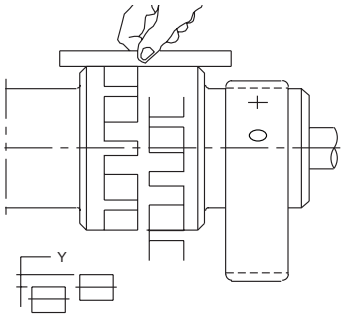
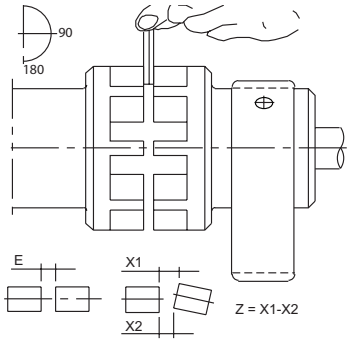


FIGURE 3B. Check For Angular Alignment



Tighten foundation bolts and recheck alignment. Equipment should be doweled after alignment.

TABLE 2. Maximum Allowable Misalignment

		A00C	A01C A01S	A02C A02S	A03C A03S	A04C A04S	A05C A05S	A06C A06S	A07C	A08C
Between Lugs (E)	mm	1.3	1.3	1.3	2.8	2.8	2.8	2.8	2.8	2.8
		1.8	1.8	1.8	3.3	3.3	3.3	3.3	3.3	3.3
	in	0.05	0.05	0.05	0.11	0.11	0.11	0.11	0.11	0.11
		0.07	0.07	0.07	0.13	0.13	0.13	0.13	0.13	0.13
Axial	mm	0.5	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0
	in	0.02	0.04	0.04	0.058	0.058	0.078	0.078	0.078	0.078
Offset (Y)	mm	0.5	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5
	in	0.02	0.04	0.04	0.04	0.058	0.058	0.058	0.058	0.058
Angular (Z)	mm	1.8	2.3	3.0	4.0	3.4	4.3	5.3	4.6	5.6
	in	0.071	0.089	0.118	0.159	0.134	0.169	0.208	0.183	0.223

A##C & A##S

A SERIES ELASTOMERIC COUPLINGS

Fitting & Maintenance Instructions

TABLE 3. Steel Retaining Ring Screwset Sizes (Cup Point)

	A00C	A01C A01S	A02C A02S	A03C A03S	A04C A04S	A05C A05S	A06C A06S	A07C	A08C
Setscrew Size (mm)	M5x5	M6x6	M8x10	M8x10	M8x10	M10x12	M10x12	M10x12	M10x12

Install the insert

Once the equipment is aligned, the insert can then be installed. Align the lugs of each hub so they are facing one another. Wrap the insert around the hubs, pressing the insert into the space between the lugs. It may be necessary to tap the insert into place.

Install the ring

Move the ring over the insert, ensuring the pins in the ring are in line with the appropriate slots in the insert (through slot for horizontal and half slot for vertical applications). Tap gently into place with a soft-headed mallet until the pins engage the center hole in each slot and tighten setscrews (refer to Table 3 for correct size).

Disassembly

Loosen setscrews and remove the ring with a soft-headed mallet, which prevents any damage to the ring.
The insert can now be easily removed and replaced.

FIGURE 4. Install the Insert

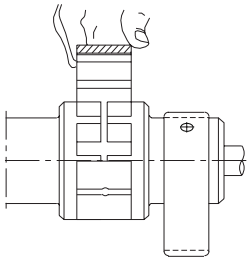


FIGURE 5A. Place Retaining Ring

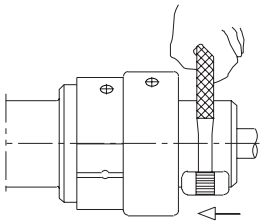


FIGURE 5B.
Install Retaining Ring Set Screw

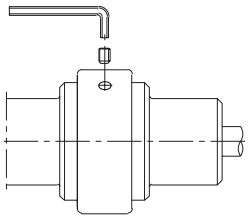
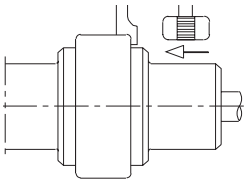


FIGURE 6.
Retaining Ring Disassembly



Operation, Inspection and Maintenance

Before starting the machinery, ensure that all necessary safety procedures are being observed and coupling guards are fitted.

Routine examination should include a periodic check on the tightness of fasteners and visual inspection of transmission components for signs of fatigue or wear.

If the coupled machinery is disturbed at any time, shaft alignment should be rechecked. Alignment checking is recommended if a deterioration of installation alignment during service is suspected.

Maintenance work must only be carried out by suitably qualified personnel when the equipment is stationary and has been made safe.

Failures are rare and can generally be attributed to excessive misalignment and/or severe torsional overload. In all cases of coupling failure, the cause should be identified and corrected before replacing the coupling.

It is possible to repair the coupling by fitting replacement inserts.

ATTENTION When repairing John Crane's Powerstream couplings, only John Crane approved parts should be used.

North America
United States of America
Tel: 1-847-967-2400
Fax: 1-847-967-3915

Europe
United Kingdom
Tel: 44-1753-224000
Fax: 44-1753-224224

Latin America
Brazil
Tel: 55-11-3371-2500
Fax: 55-11-3371-2599

Middle East & Africa
United Arab Emirates
Tel: 971-481-27800
Fax: 971-488-62830

Asia Pacific
Singapore
Tel: 65-6518-1800
Fax: 65-6518-1803