

Aeroquip®

1817 Series Ball Bearing Swivel Joints



EATON

Powering Business Worldwide

Table of Contents

Features and Capabilities.....3

3000 PSI Swivel Joints with Flared and Flareless Ends 3 – 5

3000 PSI Swivel Joints with Beam Seal Ends6

4000 PSI Swivel Joints with Beam Seal Ends 7

Eaton's Aeroquip 1817 series ball bearing plane swivel joints are qualified to MIL-J-5513C for dependable 3,000 psi (20,684 kPa), 4,000 psi (27,579 kPa) and 5,000 psi (34,475 kPa) service. Eaton engineers have designed these swivel joints to provide exceptionally long trouble-free service.

Design features include:

- Ball bearings minimize torque and maximize service life
- Stainless steel material minimizes envelope size and maximizes strength
- Titanium material reduces weight
- Dust seal excludes grit contamination which protects the ball bearings and seals for increased service life
- Less than 5 psi (34,475 kPa) pressure loss through straight configuration at rated flow

Eaton's Aeroquip ball bearing plane swivel joints may be used with hose assemblies to prevent binding or twisting of the hose and to provide a flexible joint in rigid lines. These low profile swivels are available in -4*, -6, -8, -10, -12, and -16 sizes with flared, flareless and Beam Seal fitting ends.

** The -4 size was subjected to 5,000,000 endurance test cycles beyond MIL-J-5513C qualification requirement for a special helicopter rotor head application. Test report is available upon request.*

Design Data

Service: Swivel joints shown are for MIL-H-5606 and MIL-H-83282 hydraulic fluid. Swivels are available for Skydrol applications and any fluid or gas compatible with available seals.

Material: Corrosion resistant steel, titanium

Pressures (room temperature):

Pressure (psi/kPa)			
Operating	3,000/20,684	4,000/27,579	5,000/34,475**
Proof	4,500/31,026	6,000/41,370	7,500/51,711
Min Burst	7,500/51,711	10,000/68,948	12,500/86,184

*** Class 5,000 available on request. Please contact Eaton's Aerospace Group in Jackson, Michigan.*

Temperature Range: -65°F (-54°C) to +275°F (+132°C)

Qualification: MIL-J-5513C, Type II,
Class 3000 psi (sizes 4-16)
Class 4000 psi (sizes 4, 6, -10, -12)
Class 5000 psi (sizes 6-12)

Engineering assistance is available to solve specific installation problems with special mounting provision, tube end configurations and seal combinations.

The swivel joint can be designed as an integral part of a hose assembly which increases reliability by reducing the number of potential leak points.

Whatever the requirements are for an 1817 series ball bearing plane swivel joint, or any other type of flexible fluid line connection, contact Eaton's Jackson, Michigan facility.



Flared Ends



AS4395



AS4396

Flareless Ends



AS33514



AS33515

Beam Seal Ends



AS4207



AS4208

Other configurations available upon request.

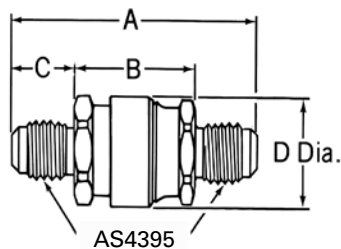
Comparative Performance Data

Swivel Dash Size	Rated Flow (GPM)	Torque (inch-lbs)	
		MIL-J-5513C	Eaton Δ
-4	1.2	15	1
-6	3.5	30	3
-8	6.0	45	5
-10	10.5	60	8
-12	16.0	90	11
-16	29.0	135	15

Δ 3000 psi at room temperature

Class 3000 psi Swivel Joints Flared/Flareless Ends

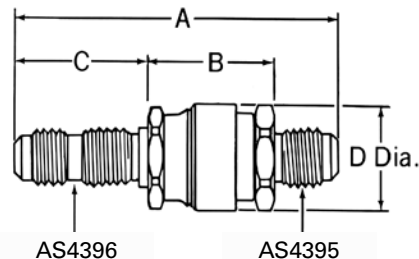
Part numbers shown are for MIL-H-83282 hydraulic fluid.



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .015$	D Max	Wt. (lbs/kg)
-4	AE81511E	2.07/52.5	.97/24.6	.550/13.9	.80/20.3	.12/.05
-6	AE81511G	2.23/56.6	1.12/28.4	.556/14.1	.90/22.8	.19/.09
-8	AE81511H	2.55/64.7	1.24/31.4	.657/16.6	1.19/30.2	.32/.15
-10	AE81511J	2.94/74.6	1.42/36	.758/19.2	1.32/33.5	.46/.21
-12	AE81511K	3.98/101	1.55/39.3	.864/21.9	1.52/38.6	.73/.33
-16	AE81511M	3.60/91.4	1.78/45.2	.911/23.1	1.78/45.2	1.08/.49

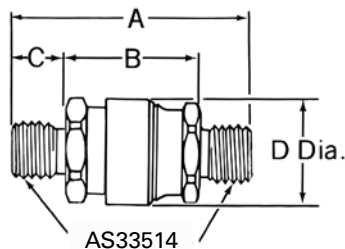
SKYDROL Equivalent Part Number: AE77870 (E - M size)



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .032$	D Max	Wt. (lbs/kg)
-4	AE81512E	2.57/65.2	.97/24.6	1.047/26.5	.80/20.3	.14/.06
-6	AE81512G	2.80/71.1	1.12/28.4	1.125/28.5	.90/22.8	.21/.10
-8	AE81512H	3.18/80.7	1.24/31.4	1.281/32.5	1.19/30.2	.36/9.1
-10	AE81512J	3.60/91.4	1.42/36	1.422/36.1	1.32/33.5	.52/13.2
-12	AE81512K	4.01/101.6	1.55/39.3	1.593/40.4	1.52/38.6	.84/21.3
-16	AE81512M	4.28/108.7	1.78/45.2	1.593/40.4	1.78/45.2	1.21/30.7

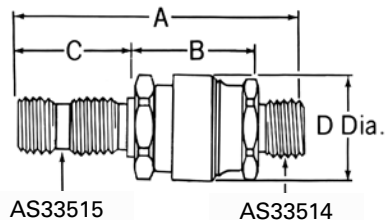
SKYDROL Equivalent Part Number: AE77871 (E - M size)



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .010$	D Max	Wt. (lbs/kg)
-4	AE81507E	1.87/47.4	.97/24.6	.453/11.5	.80/20.3	.11/2.7
-6	AE81507G	2.06/52.3	1.12/28.4	.469/11.9	.90/22.8	.18/4.5
-8	AE81507H	2.36/59.9	1.24/31.4	.562/14.2	1.19/30.2	.31/7.8
-10	AE81507J	2.67/67.8	1.42/36	.625/15.8	1.32/33.5	.42/10.6
-12	AE81507K	2.93/74.4	1.55/39.3	.688/17.4	1.52/38.6	.72/18.2
-16	AE81507M	3.16/80.2	1.78/45.2	.688/17.4	1.78/45.2	.98/24.8

SKYDROL Equivalent Part Number: AE86056 (E - M size)



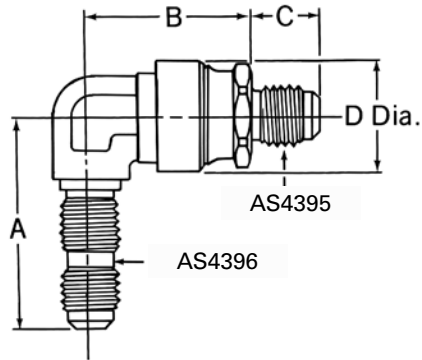
Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .032$	D Max	Wt. (lbs/kg)
-4	AE81508E	2.39/60.7	.97/24.6	.969/24.6	.80/20.3	.12/3
-6	AE81508G	2.61/66.2	1.12/28.4	1.015/25.7	.90/22.8	.20/5
-8	AE81508H	2.96/75.1	1.24/31.4	1.156/29.3	1.19/30.2	.35/8.8
-10	AE81508J	3.34/84.8	1.42/36	1.297/32.9	1.32/33.5	.48/12.1
-12	AE81508K	3.64/92.4	1.55/39.3	1.406/35.7	1.52/38.6	.79/20
-16	AE81508M	3.87/98.2	1.78/45.2	1.406/35.7	1.78/45.2	1.10/27.9

SKYDROL Equivalent Part Number: AE82273 (E - M size)

Class 3000 psi Swivel Joints Flared/Flareless Ends

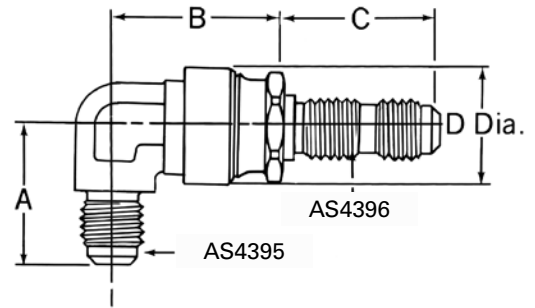
Part numbers shown are for MIL-H-83282 hydraulic fluid.



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (lbs/kg)
-4	AE81513E	1.55/39.3	1.21/30.7	.550/13.9	.80/20.3	.20/.09
-6	AE81513G	1.72/43.6	1.47/37.3	.556/14.1	.90/22.8	.31/.14
-8	AE81513H	1.97/50	1.71/43.4	.657/16.6	1.19/30.2	.53/.24
-10	AE81513J	2.21/56.1	1.95/49.5	.758/19.2	1.32/33.5	.77/.34
-12	AE81513K	2.48/62.9	2.16/54.8	.864/21.9	1.52/38.6	1.30/.58
-16	AE81513M	2.61/66.2	2.53/64.2	.911/23.1	1.78/45.2	2.03/.92

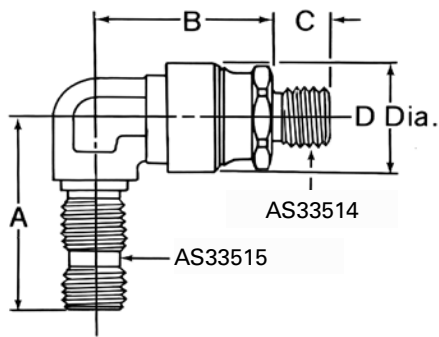
SKYDROL Equivalent Part Number: AE77872 (E - M size)



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .032	D Max	Wt. (lbs/kg)
-4	AE81514E	.99/25.1	1.21/30.7	1.047/26.5	.80/20.3	.20/.09
-6	AE81514G	1.09/27.6	1.47/37.3	1.125/28.5	.90/22.8	.31/.14
-8	AE81514H	1.26/32.0	1.71/43.4	1.281/32.5	1.19/30.2	.53/.24
-10	AE81514J	1.45/36.9	1.95/49.5	1.422/36.1	1.32/33.5	.77/.34
-12	AE81514K	1.66/42.1	2.16/54.8	1.593/40.4	1.52/38.6	1.30/.58
-16	AE81514M	2.57/65.2	2.53/64.2	1.593/40.4	1.78/45.2	2.03/.92

SKYDROL Equivalent Part Number: AE77873 (E - M size)

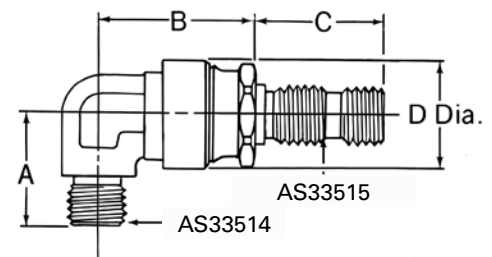


Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .010	D Max	Wt. (lbs/kg)
-4	AE81509E	1.47/37.3	1.21/30.7	.453/11.5	.80/20.3	.16/.07
-6	AE81509G	1.61/40.8	1.47/37.3	.469/11.9	.90/22.8	.30/.13
-8	AE81509H	1.85/46.9	1.71/43.4	.562/14.2	1.19/30.2	.52/.23
-10	AE81509J	2.09/53	1.95/49.5	.625/15.8	1.32/33.5	.71/.32
-12	AE81509K	2.30/58.4	2.16/54.8	.688/17.4	1.52/38.6	1.26/.57
-16	AE81509M	2.43/61.7	2.53/64.2	.688/17.4	1.78/45.2	1.94/.87

SKYDROL Equivalent Part Number: AE82274 (E - M size)

*NOTE: Order AE83244 (E-M) for AS33514 on both ends.



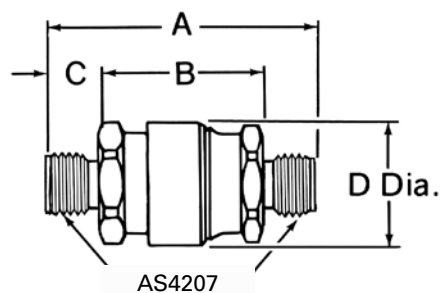
Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .032	D Max	Wt. (lbs/kg)
-4	AE81510E	.89/22.6	1.21/30.7	.969/24.6	.80/20.3	.19/.08
-6	AE81510G	1.00/25.4	1.47/37.3	1.015/25.7	.90/22.8	.30/.13
-8	AE81510H	1.16/29.4	1.71/43.4	1.156/29.3	1.19/30.2	.52/.23
-10	AE81510J	1.32/33.5	1.95/49.5	1.297/32.9	1.32/33.5	.71/.32
-12	AE81510K	1.48/37.5	2.16/54.8	1.406/35.7	1.52/38.6	1.26/.57
-16	AE81510M	1.61/40.8	2.53/64.2	1.406/35.7	1.78/45.2	1.94/.87

SKYDROL Equivalent Part Number: AE84207 (E - M size)

Class 3000 psi Swivel Joints Beam Seal

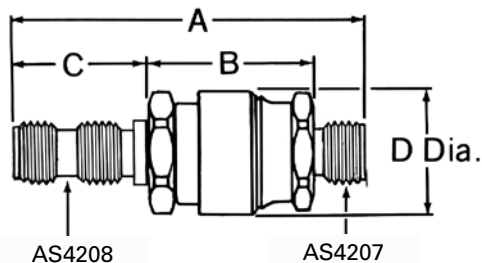
Part numbers shown are for MIL-H-83282 hydraulic fluid.
Contact Eaton for Skydrol application part numbers.



Dimensions: inches/mm

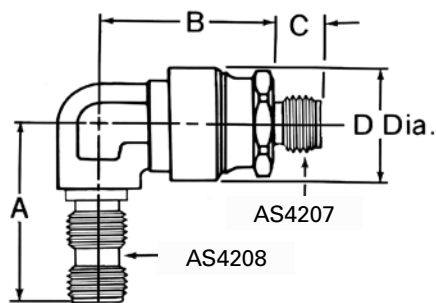
Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (lbs/kg)
-4	AE81515E	1.52/38.6	.97/24.6	.275/6.9	.88/22.3	.11/.05
-6	AE81515G	1.71/43.4	1.12/28.4	.295/7.4	.90/22.8	.18/.08
-8	AE81515H	1.86/47.2	1.24/31.4	.308/7.8	1.19/30.2	.30/.14
-10	AE81515J	2.16/54.8	1.42/36	.372/9.4	1.32/33.5	.41/.19
-12	AE81515K	2.37/60.1	1.55/39.3	.412/10.4	1.52/38.6	.66/.30
-16	AE81515M	2.70/68.5	1.78/45.2	.460/11.6	1.78/45.2	.99/.25.1

Electroless nickel on bolt (not qualified) -4 Dynatube only.



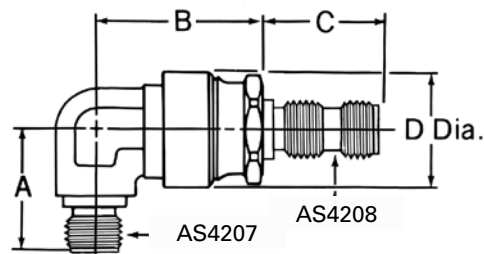
Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .032	D Max	Wt. (lbs/kg)
-4	AE81516E	1.92/48.7	.97/24.6	.680/17.2	.88/22.3	.12/.05
-6	AE81516G	2.14/54.3	1.12/28.4	.719/18.2	.90/22.8	.19/.09
-8	AE81516H	2.30/58.4	1.24/31.4	.755/19.1	1.19/30.2	.34/.15
-10	AE81516J	2.69/68.3	1.42/35	.894/22.7	1.32/33.5	.46/.21
-12	AE81516K	2.95/74.9	1.55/39.3	.990/25.1	1.52/38.6	.75/.34
-16	AE81516M	3.32/84.3	1.78/45.2	1.082/27.4	1.78/45.2	1.09/.49



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (lbs/kg)
-4	AE81517E	1.12/28.4	1.21/30.7	.275/6.9	.88/22.3	.18/4.5
-6	AE81517G	1.25/31.7	1.47/37.3	.295/7.4	.90/22.8	.29/7.3
-8	AE81517H	1.35/34.2	1.71/43.4	.308/7.8	1.19/30.2	.50/12.7
-10	AE81517J	1.59/40.3	1.95/49.5	.372/9.4	1.32/33.5	.70/17.7
-12	AE81517K	1.79/45.4	2.16/54.8	.412/10.4	1.52/38.6	1.21/30.7
-16	AE81517M	2.01/51	2.53/64.2	.460/11.6	1.78/45.2	1.91/48.5

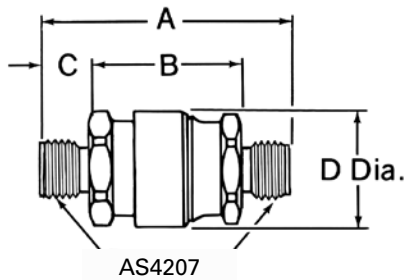


Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (lbs/kg)
-4	AE81518E	.71/18	1.21/30.7	.680/17.2	.88/22.3	.18/4.5
-6	AE81518G	.83/21	1.47/37.3	.719/18.2	.90/22.8	.29/7.3
-8	AE81518H	.90/22.8	1.71/43.4	.755/19.1	1.19/30.2	.50/12.7
-10	AE81518J	1.07/27.1	1.95/49.5	.894/22.7	1.32/33.5	.70/17.7
-12	AE81518K	1.21/30.7	2.16/54.8	.990/25.1	1.52/38.6	1.21/30.7
-16	AE81518M	1.39/35.3	2.53/64.2	1.082/27.4	1.78/45.2	1.91/48.5

Class 4000 psi Swivel Joints Beam Seal

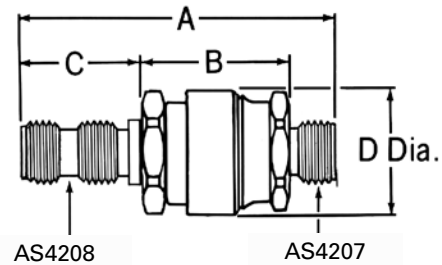
Part numbers shown are for MIL-H-83282 hydraulic fluid.
Contact Eaton for Skydrol application part numbers.



Dimensions: inches/mm

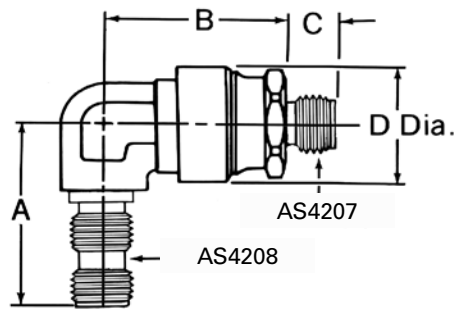
Size	Part Number	A Ref	B Ref	C $\pm .015$	D Max	Wt. (lbs/kg)
-4*	AE73704E	1.52/38.6	.97/24.6	.275/6.9	.795/20.1	.09/.04
-6	AE73704G	1.72/43.6	1.12/28.4	.295/7.4	.990/25.1	.14/.06
-8	AE73704H	1.87/47.4	1.25/31.7	.308/7.8	1.185/30	.22/.10
-10	AE73704J	2.17/55.1	1.42/36	.372/9.4	1.315/33.4	.30/.14
-12	AE73704K	2.39/60.7	1.56/39.6	.412/10.4	1.515/38.4	.43/.20
-16	AE73704M	2.71/68.8	1.79/45.4	.460/11.6	1.780/45.2	.69/.31

*Electroless nickel on bolt (not qualified) -4 Beam Seal only.



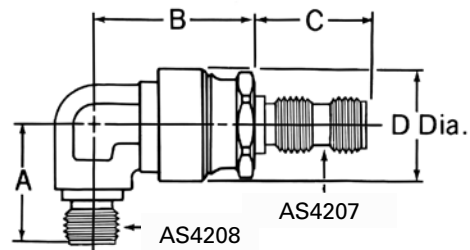
Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .015$	D Max	Wt. (lbs/kg)
-4	AE73705E	1.92/48.7	.97/24.6	.680/17.2	.795/20.1	.11/.05
-6	AE73705G	2.14/54.3	1.12/28.4	.719/18.2	.990/25.1	.16/.07
-8	AE73705H	2.31/58.6	1.25/31.7	.755/19.1	1.185/30	.26/.12
-10	AE73705J	2.69/68.3	1.42/36	.894/22.7	1.315/33.4	.36/.16
-12	AE73705K	2.97/75.4	1.56/39.6	.990/25.1	1.515/38.4	.52/.23
-16	AE73705M	3.33/84.5	1.79/45.4	1.082/27.4	1.780/45.2	.80/.37



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .015$	D Max	Wt. (lbs/kg)
-4	AE73707E	1.12/28.4	1.28/32.5	.275/6.9	.795/20.1	.14/.06
-6	AE73707G	1.25/31.7	1.48/37.5	.295/7.4	.990/25.1	.23/.10
-8	AE73707H	1.35/34.2	1.71/43.4	.308/7.8	1.185/30	.37/.17
-10	AE73707J	1.59/40.3	1.92/48.7	.372/9.4	1.315/33.4	.53/.24
-12	AE73707K	1.79/45.4	2.17/55.1	.412/10.4	1.515/38.4	.92/.42
-16	AE73707M	2.01/51	2.45/62.2	.460/11.6	1.780/45.2	1.45/.66



Dimensions: inches/mm

Size	Part Number	A Ref	B Ref	C $\pm .015$	D Max	Wt. (lbs/kg)
-4	AE73706E	.71/18	1.28/32.5	.680/17.2	.795/20.1	.14/.06
-6	AE73706G	.83/21	1.48/37.5	.719/18.2	.990/25.1	.23/.10
-8	AE73706H	.90/22.8	1.71/43.4	.755/19.1	1.185/30	.37/.17
-10	AE73706J	1.07/27.1	1.92/48.7	.894/22.7	1.315/33.4	.53/.24
-12	AE73706J	1.21/30.7	2.17/55.1	.990/25.1	1.515/38.4	.92/.42
-16	AE73706J	1.39/35.3	2.45/62.2	1.082/27.4	1.780/45.2	1.45/.66

Eaton
Aerospace Group
Fluid & Electrical Distribution Division
300 South East Avenue
Jackson, Michigan 49203-1972
Phone: (517) 787 8121
Fax: (517) 789 2947