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Universal Joint Couplings for Industrial Applications

Parts and Assemblies



SPICER[®]



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INTRODUCTION

This Industrial Driveshaft Catalog illustrates the Standard Universal Joint Couplings that are manufactured by Dana Corporation and are currently installed in Steel Mills, Paper Mills, Sewage Pump Stations, and many other stationary driveshaft applications.

PART NUMBER DETERMINATION FOR TUBULAR DRIVESHAFTS

We have shown basic Spicer Driveshaft Assembly Part Numbers for Short Coupled and Two Joint Tube Type Industrial Driveshafts. Each Tube Type Assembly has its own individual simple formula for calculating the proper Tube Length of the collapsed Assembly.

Example: 2150 Series Assembly Number **906004**

Given: A-1 = Full Collapsed Length of 78.625 Inches

Given: T = A-1 (Collapsed) minus 56.312 Inches for **906004** Assembly

A-1 (Collapsed) = 78.625 Inches

Subtract 56.312 Inches

T = Tube Length 22.313 Inches

22.313 Inches = 22 5/16 = 22 10/32 = 2210 Tube Length

Order 2150 Series Part Number **906004-2210**

IDENTIFICATION OF JOINT SERIES

To identify Joint Series needed, refer to page 55 and locate "E" dimension (where shown) and also the "D" dimension. The first column on that page will show the proper series.

COLOR CODES FOR QUICK REFERENCE

The color codes shown in this catalog are for quick reference to:

M = the major spline diameter and number of splines	L = the spline length	S = the total slip
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WARNING

Contact with a spinning shaft can result in serious injury. Safety guards should be used to protect personnel from contact with rotating shafts, or to contain the shaft in the event of failure.

IMPORTANT NOTICE

The data listed herein is correct to the best of our knowledge and belief; having been compiled from reliable and official sources of information. However, WE CANNOT ASSUME ANY RESPONSIBILITY for possible error.

Required Data

For Any Universal Joint Coupling Application

1.	TYPE OF POWER SOURCE, GASOLINE, ELECTRIC, DIESEL, ETC.	1.
2.	H.P. FOR POWER SOURCE.	2.
3.	DETERMINE IF GEAR BOX IS USED. (a) REDUCTION RATIO (48 TO 1) (b) INCREASING RATIO (24 TO 1).	3.
4.	R.P.M. OF THE UNIVERSAL JOINT.	4.
5.	TRUE OPERATING ANGLE OF EACH UNIVERSAL JOINT KIT IN THE DRIVESHAFT.	5.
6.	TOTAL SLIP REQUIRED IN THE DRIVESHAFT.	6.
7.	COLLAPSED LENGTH FLANGE FACE TO FLANGE FACE.	7.
8.	MAXIMUM EXTENDED LENGTH FLANGE FACE TO FLANGE FACE.	8.
9.	INSTALLED LENGTH FLANGE FACE TO FLANGE FACE.	9.
10.	MAXIMUM AND MINIMUM SWING DIAMETER.	10.
11.	ANY UNUSUAL OPERATING CONDITIONS THE DRIVESHAFT MAY BE EXPOSED TO.	11.
12.	EXPECTED LIFE CUSTOMER REQUIRES FOR THE DRIVESHAFT APPLICATION.	12.

Basic Torque Ratings

The ratings are divided into the respective joint duty sizes and are based on the following:

Continuous Torque . . . for use as a reference only, based on 5000 hrs. B10 life expectancy at **100 r.p.m.**, 3° operating angle.

Short Duration . . . represents the joints capability to withstand momentary loading accompanying start-stop service.

Minimum Elastic Limit . . . represents the maximum torque load the universal joint will transmit instantaneously without brinelling bearing or yield in any part. This may be assumed to be the maximum safe shock load.

Maximum Operating Speed . . . is based on suitable proportions of length and tube diameter.

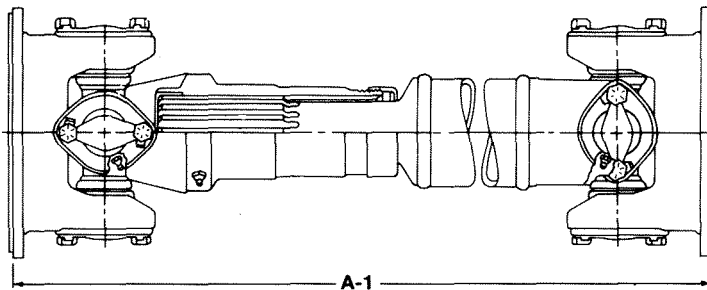


Figure 1

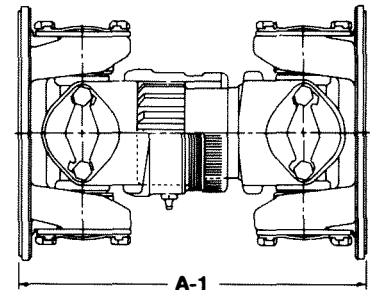


Figure 2

SPICER U-JOINT SERIES	Torsional Ratings (lb. ft.)			U-Joint Swing Diameter	A-1 Minimum Length Collapsed		* Maximum Operating Speed
	Continuous Torque	Short Duration Torque	Minimum Elastic Limit		Tube Type Assembly (Figure 1)	Short Coupled Assembly (Figure 2)	
Light Duty							
1280	—	570	1,250	3.75"	13.66"	8.88"	6,000
1310	400	800	1,600	3.75"	13.66"	8.88"	6,000
Medium Duty							
1350	680	1,240	2,260	4.25"	14.96"	9.50"	5,000
1410	820	1,500	2,700	4.69"	14.62"	8.75"	5,000
1480	1,100	2,000	3,330	4.81"	15.50"	8.50"	5,000
Heavy Duty							
1550	1,400	2,400	4,400	5.63"	15.75"	8.50"	5,000
1610	2,200	3,650	6,500	7.00"	19.81"	9.12"	4,500
1710	2,930	4,800	8,000	7.75"	21.50"	10.62"	4,500
1760	3,480	5,800	10,200	8.57"	22.73"	19.14"	4,500
1810	3,800	6,500	12,000	9.13"	24.69"	13.40"	4,500
1880	5,000	8,900	16,000	9.88"	25.69"	13.63"	3,000
Extra Heavy Duty							
1910	7,800	12,000	20,800	8.81"	30.38"	21.65"	2,500
1950	11,300	18,000	34,000	11.25"	44.00"	33.94"	2,500
2050	23,700	36,000	68,000	14.00"	45.25"	33.75"	2,000
2150	47,200	72,000	136,000	17.50"	61.44"	56.94"	1,500

* - Rating applies to Universal Joint

How to Achieve Maximum Benefit From Your Universal Joint Coupling.

Universal Joint Couplings offer a great deal of flexibility in the alignment of driving and driven units. They transmit torque through an angle and provide long life. These are the primary reasons for using Universal Joint Couplings. The ability to change length and angle during rotation under torque load further increases the usefulness of Universal Joint Couplings.

Application Guidelines.

Size selection depends on the following basic parameters:

1. Continuous Operating Torque.
2. Continuous True Running Angles.
3. Desired Service Life.
4. Power Source

To determine the Universal Joint Coupling size required in Figure 1, use the following formula:

$$\text{Equivalent Torque} = T \times F_A \times F_L \times F_P$$

T = Continuous Operating Torque
in lb. ft. = $\frac{HP \times 5252}{RPM}$

F_A = Angle Factor from Figure 2.

F_L = Life Factor from Figure 3.

F_P = Power Factor

Power Source	F_P
Electric Motor	1.00
Gasoline Engine	1.25
Diesel Engine	1.50

In addition to the above, the maximum start up torque should be checked against the "Short Duration Torque" rating for the universal joint size applicable. The start up torque should not exceed this rating in order to obtain maximum fatigue life of the driveshaft assembly. Momentary shock loads, if any, should not exceed the torsional strength rating. This will assure that the universal joint size selected will have adequate bearing capacity to resist brinelling when subjected to shock loading.

If a service factor is requested by the user, the following statement will determine if the driveline is large enough. "Short Duration Torque" must be equal to, or greater than, Continuous Operating Torque times the Service Factor ($SDT \geq COT \times SF$).

Driveshaft Length and Rotational Speed.

In applications where long lengths of shafts are required for transmission of power from the driving unit to the driven unit, the speed is restricted by the transverse whirling speed. This is commonly referred to as the shaft "Critical Speed." This speed is a function of the tube diameter, wall thickness and the effective length.

Figure 4 illustrates the safe operating speeds for standard driveshaft tube sizes in the Spicer product line. This safe operating speed is based on .75 of the true calculated critical speed for the effective length shown.

In some applications, vibrations from the half critical can be troublesome. For these applications the operating speed should be above or below two-thirds the maximum indicated on Figure 4.

Where lengths are such that avoidance of the critical speed by use of a larger tube diameter is not practical, a multiple drive-shaft arrangement having intermediate shaft support bearings is recommended. This type of arrangement is especially recommended for high speed applications whereby effective lengths exceed 70 inches and driveshaft balance is critical to the drive or driven member.

Universal Joint Angles and Rotational Speed.

The Cardan type universal joint, when operating at an angle results in non-uniform motion output given uniform motion input. Because of this characteristic, care must be taken in inboard alignment and driveshaft installation angles.

When the universal joint installation angles lie in the same plane, inboard yoke cross holes are in line. This is the standard method for driveshaft assembly. Given equal universal joint angles on each end of the driveshaft results in maximum cancellation. The non-uniform motion from the first universal joint in the system is cancelled at the output of the second universal joint.

When out of plane universal joint angles exist in an installation, standard inboard yoke alignment does not apply. For this condition it is suggested that Spicer universal joint engineering be contacted for determination of proper yoke alignment.

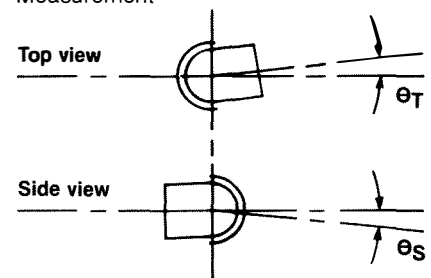
The maximum single universal joint angle in a two joint system is limited by the speed of rotation. Figure 5 shows the maximum normal operating angles suggested for a two joint system. The angles shown limits the angular acceleration to 1000 rad/sec². This angular acceleration, although cancelled with exactly equal universal joint angles at the output of the second joint, is still prevalent on the center section of the driveshaft assembly. Because of this excitation factor, limits must be imposed.

Determination of the maximum continuous universal joint angle in an application takes into consideration any offset in the top view as well as the offset in the side view.

This is usually referred to as the "True Operating Angle" and can be closely approximated by the following:

$$\text{True Operating Angle} = \sqrt{\Theta^2_T + \Theta^2_S}$$

Where: Θ = Angle in Degrees by Measurement



Experience has shown that by following the suggested U-Joint Angle-Rotational Speed guidelines good performance in the majority of applications results.

Application Procedures Using Equivalent Torque

The formula $ET = T \times FA \times FL \times FP$ provides an easy method of determining your driveshaft requirements. Equivalent Torque (ET) takes into consideration the Torque (T) which is applied to the shaft, the angles (FA), and their effect on Service Life, the amount of excess capacity (FL), required to insure required B-10 Life, and a factor (FP), to allow for Torsional Excitation by the power source.

First solve the equation, then use the Equivalent Torque Chart (Fig. 1) page 7, to select the right Series. Secondly make sure the Maximum Start-Up Torque does not exceed the "Short Duration Torque," as shown on the chart on page 3. Using these guidelines, along with our Maximum Safe Operating Speed Chart (Fig. 4) page 10, will assure a satisfactory installation.

One further note of caution on Operating Speeds. At times the Half ($\frac{1}{2}$) Critical Speed can be a problem as it could set up vibrations in your drive system. Try to avoid having an installation which runs at 66.7% of the Maximum Safe Operating Speed.

Here are a few examples which illustrate the Equivalent Torque Formula. All values are taken from charts on the next few pages:

ET = Equivalent Torque

$$T = \frac{HP \times 5252}{RPM}$$

FA = Angle Factor (Fig. 2 page 8)

FL = Life Factor (Fig. 3 page 9)

FP = Power Factor

(Chart in Column 1, page 4)

HP = Power Source Horsepower

RPM = Driveshaft Speed

DC = Direct Current Electric Motor

Example #1

Application: Water Pump

30 HP DC Motor, running at 1000 RPM, 6° Angle at both ends,

B-10 Life of 50,000 hours required

Use the formula $ET = T \times FA \times FL \times FP$

Factors

$$T = \frac{30 \times 5252}{1000} \text{ or } 157.56$$

FA = 1.25 (Fig. 2)

FL = 2 (Fig. 3)

FP = 1 (Power Factor Chart)

Solution

$$ET = 157.56 \times 1.25 \times 2 \times 1$$

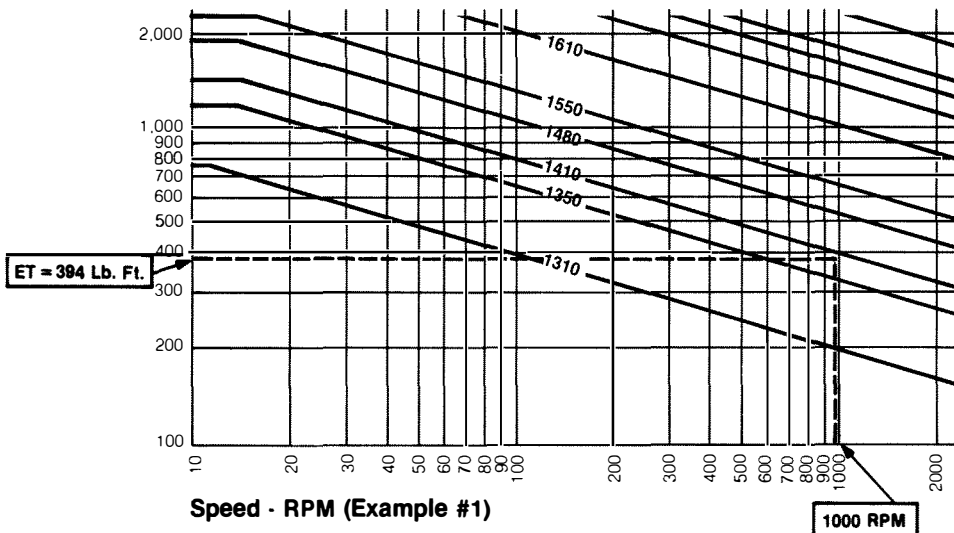
$$ET = 393.9$$

394 Lb. Ft. @ 1000 RPM (use Fig. 1 to determine the correct

Universal Joint Series which is 1410)

(1410 Short Duration Torque is 1500 Lb. Ft.)

Figure 1. Universal Joint Size Equivalent Torque (lb. ft.)



Practical Application Procedures

Example #2

Application: Presser Roll on a Paper Machine
 10 HP DC Motor with a 14 to 1 Reduction Gear Box
 Motor running at 450 RPM, 5° Angles on both ends,
 B-10 Life of 40,000 hours required

Use the formula $ET = T \times FA \times FL \times FP$

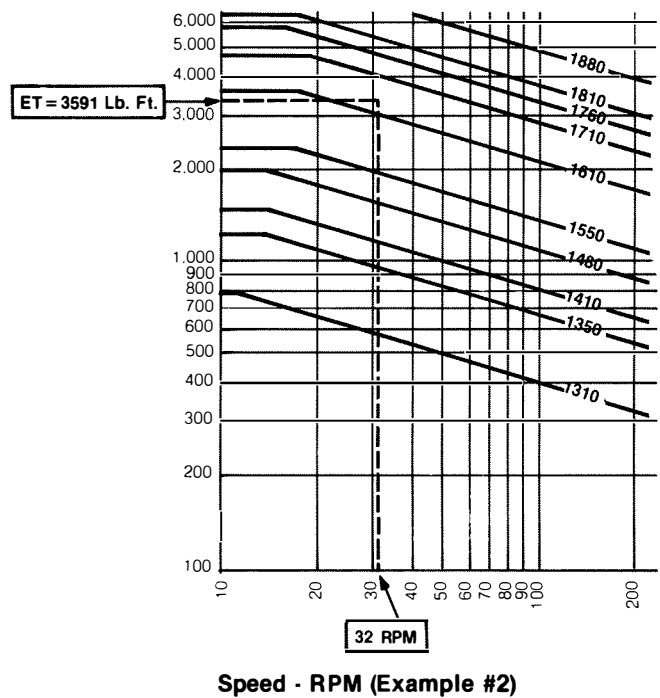
Factors

RPM = 32.14 (450 ÷ 14)
 $T = \frac{10 \times 5252}{32.14}$ or 1634.1
 FA = 1.175
 FL = 1.87
 FP = 1

Solution

$ET = 1634 \times 1.175 \times 1.87 \times 1$
 $ET = 3590.53$
 3591 Lb. Ft. @ 32 RPM (use Fig. 1 to determine the correct Universal Joint Series which is 1710 (1710 Short Duration Torque is 4800 Lb. Ft.)

Figure 1. Universal Joint Size Equivalent Torque (lb. ft.)



Example #3

Application: Aluminum Rolling Mill
 100 HP DC Motor, running at 800 RPM, 24 to 1
 Reduction Gear Box, 7° Angle on both ends,
 B-10 Life of 25,000 hours required

Use the formula $ET = T \times FA \times FL \times FP$

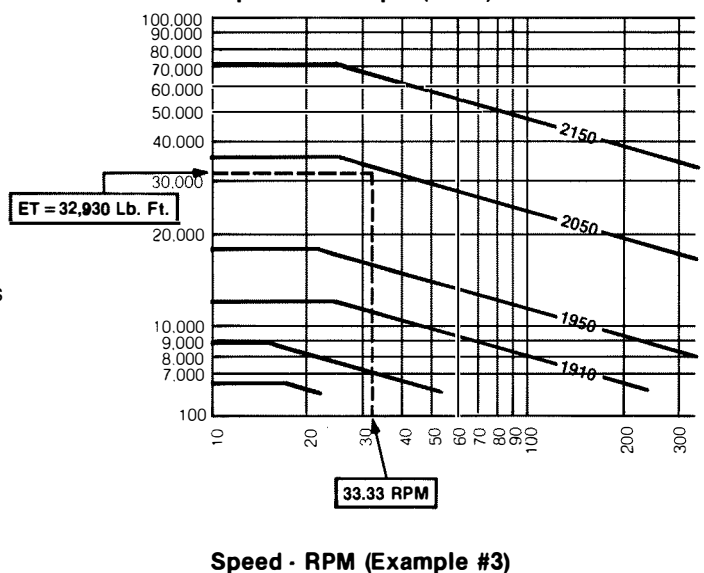
Factors

RPM = 33.33 (800 ÷ 24)
 $T = \frac{100 \times 5252}{33.33} = 15656.58$
 FA = 1.29
 FL = 1.62
 FP = 1

Solution

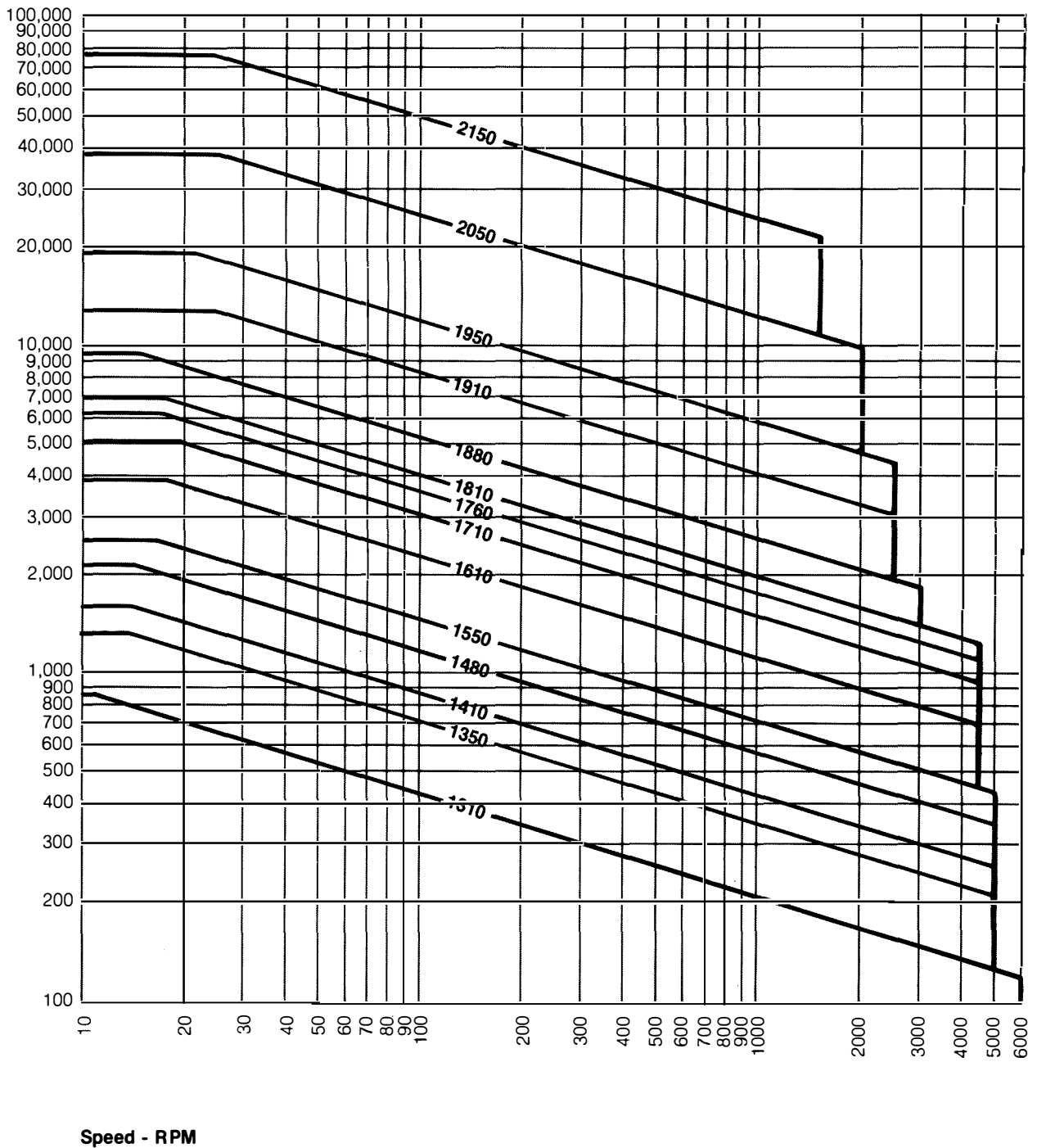
$ET = 15758 \times 1.29 \times 1.62 \times 1$
 $ET = 32,930.19$
 32,930 Lb. Ft. @ 33.33 RPM
 (Use Fig. 1 to determine the correct Universal Joint Series which is 2050 (2050 Short Duration Torque is 35,000 Lb. Ft.)

Figure 1. Universal Joint Size Equivalent Torque (lb. ft.)



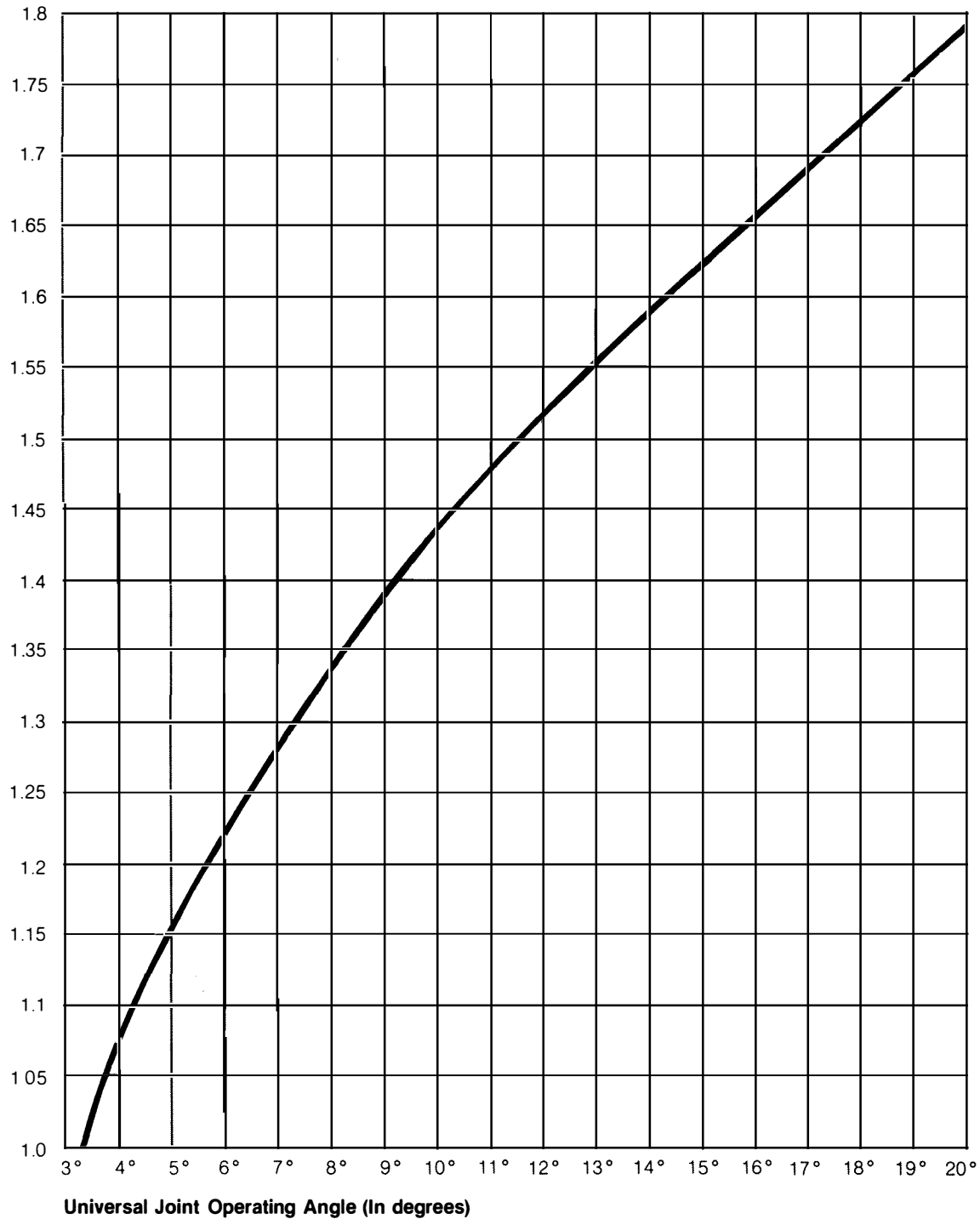
Equivalent Torque

Figure 1. Universal Joint Size
Equivalent Torque (lb. ft.)



Angle Factor

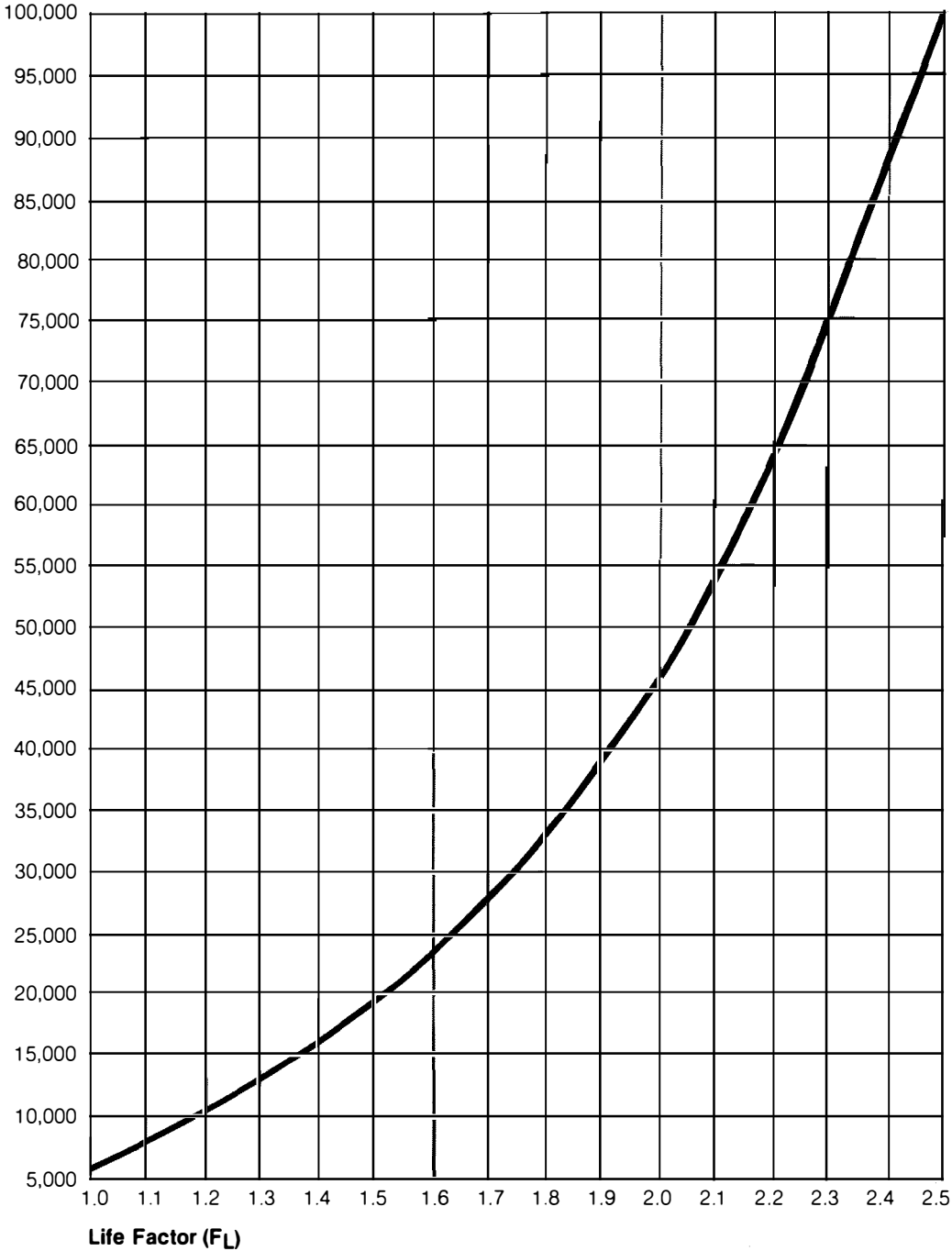
Figure 2. Angle Factor
Angle Factor (F_A)



B₁₀ Life Factor

Figure 3. Life Factor

Desired B₁₀ Life (Hours)



Maximum RPM

For other tubing sizes or lengths not shown, the maximum safe operating speed can be determined from the following formula:

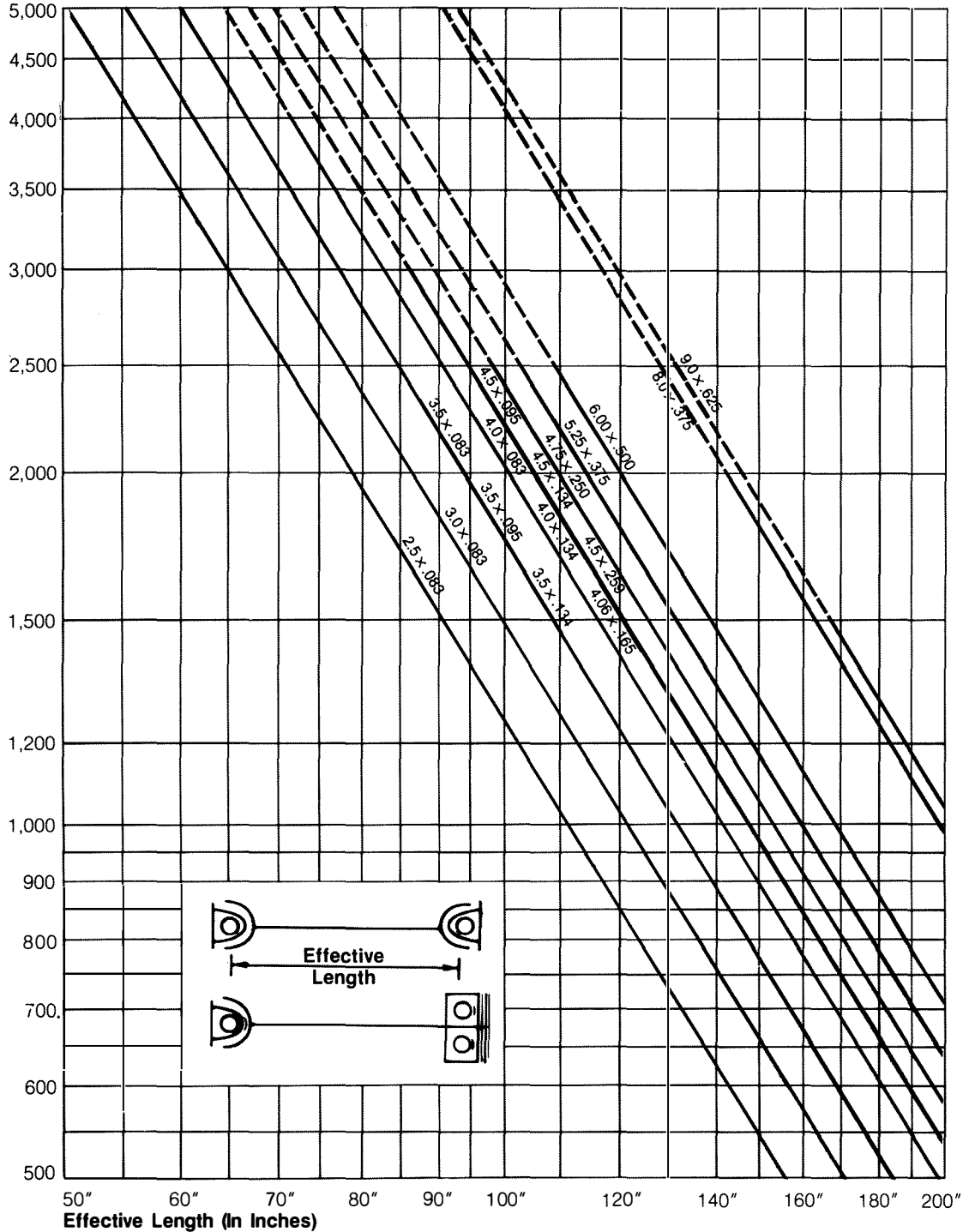
$$M.S.O.S. = \frac{4.8 \times 10^6 \times .75 \times \sqrt{I.D.^2 + O.D.^2}}{L^2}$$

I.D. = Inner Diameter of Tube
 O.D. = Outer Diameter of Tube
 L = Effective Length

Figure 4. Maximum Length and Speed

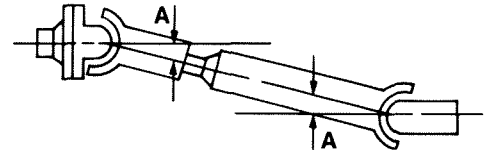
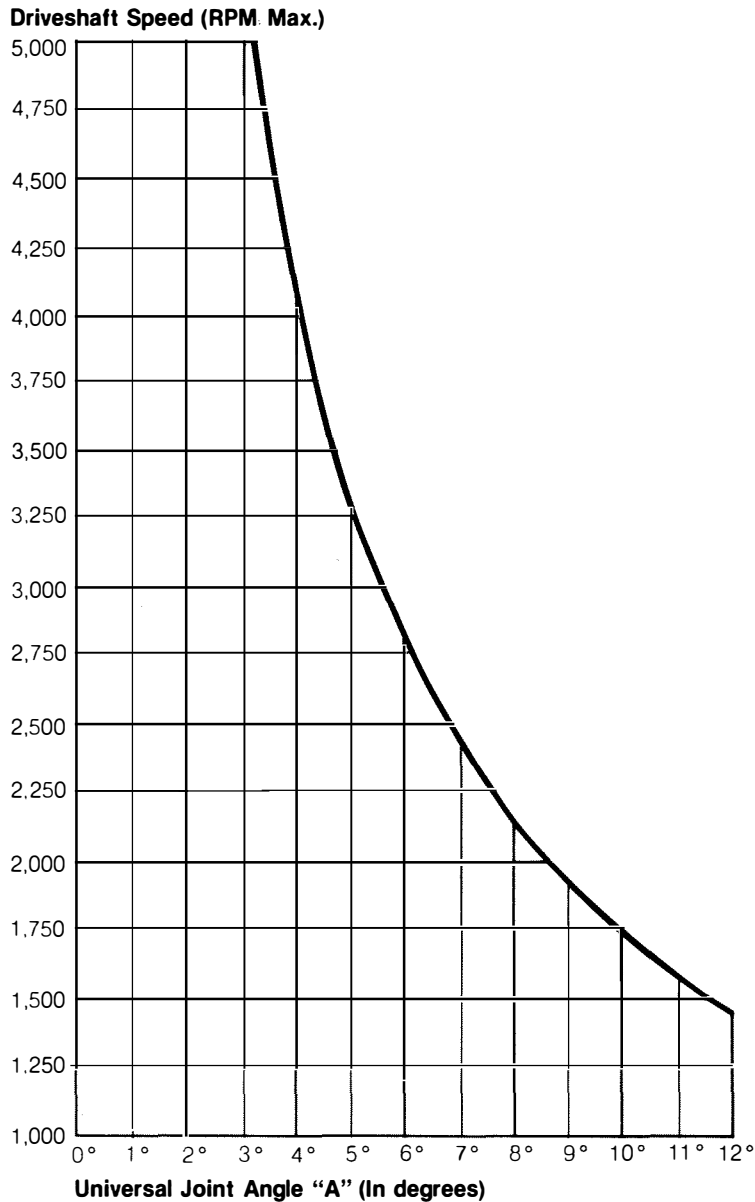
Speeds shown by dotted lines are not recommended.

Maximum Safe Operating Speed (RPM)



Maximum Angles

Figure 5. Maximum Normal Operating Angles Suggested For Two Joint Driveshafts.



Max. Speed	Angle
5000 RPM	3°15'
4500 RPM	3°40'
4000 RPM	4°15'
3500 RPM	5°0'
3000 RPM	5°50'
2500 RPM	7°0'
2000 RPM	8°40'
1500 RPM	11°30'

Note: Considerable variation exists in different applications due to sensitivity of components and mountings but the above speed-angle combinations have been established as satisfactory for the majority of applications.

Check with Spicer Engineering when Operating Angles exceed 12°

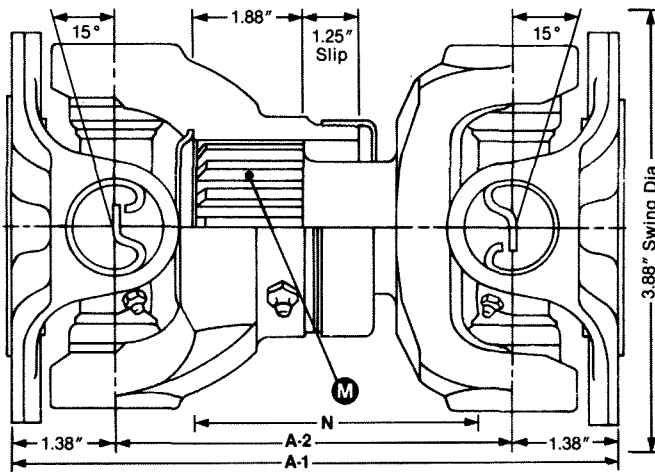
Series 1280/1310

Short Coupled Assembly

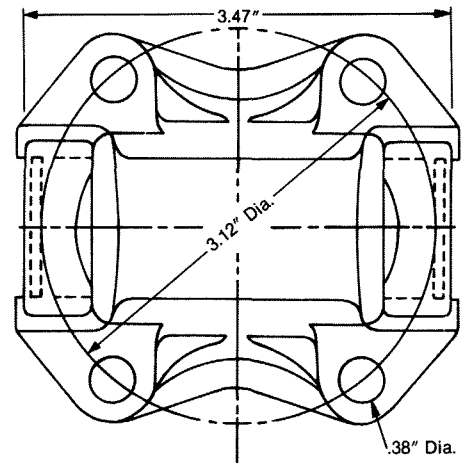
Standard Parts
U-Joint Kit
Dust Cap Kit
Approximate Weight

5-153X
D2B
8 lbs.

Short Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End		Assembly Part Number	
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline		Flange Yoke
8.88"	6.12"	2-2-329	2-3-258KX	2-82-51	4.59"	2-2-329	9235-SF

M=1.25"-16 Spline

8.88"

6.12"

2-2-329

2-3-258KX

2-82-51

4.59"

2-2-329

9235-SF

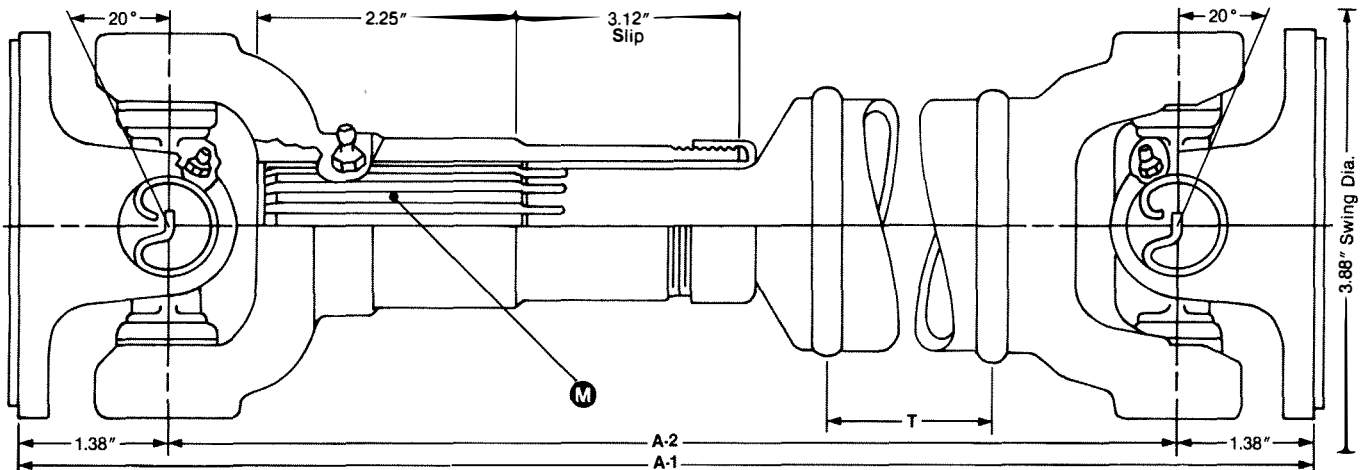
Standard Parts
 U-Joint Kit
 Dust Cap Kit
 Tube Size
 Tube Part Number
 Approximate Weight

5-153X
 D2C
 2.50" x .083" Welded
 20-30-22-
 13.5 lbs.
 plus 2.2 lbs. per
 foot of tubing

Tube Type Assembly

Series 1280/1310

Intermediate Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 1.38" - 16 Spline

Tubing Formula: T = A-2 (Collapsed) minus 9.68"

—	10.91"	S.S.	2-3-5221KX	2-40-1711	2-28-367	S.S.	909426
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Tubing Formula: T = A-1 (Collapsed) minus 12.44"

13.66"	10.91"	2-2-329	2-3-5221KX	2-40-1711	2-28-367	2-2-329	909049
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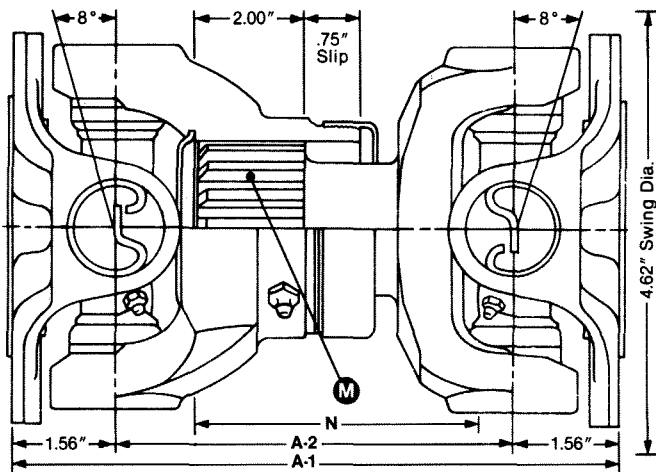
Series 1350

Short Coupled Assembly

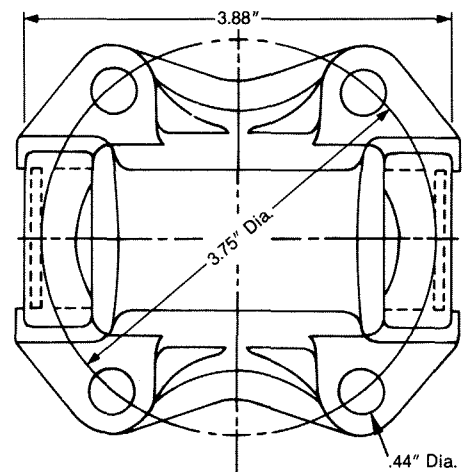
Standard Parts
U-Joint Kit
Dust Cap Kit
Approximate Weight

5-178X
D3A
11 lbs.

Short Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke	
9.50"	6.38"	3-2-119	3-3-388KX	3-82-61	4.59"	3-2-119	9012-SF

M = 1.50"-16 Spline

9.50" 6.38" 3-2-119 3-3-388KX 3-82-61 4.59" 3-2-119 9012-SF

Standard Parts

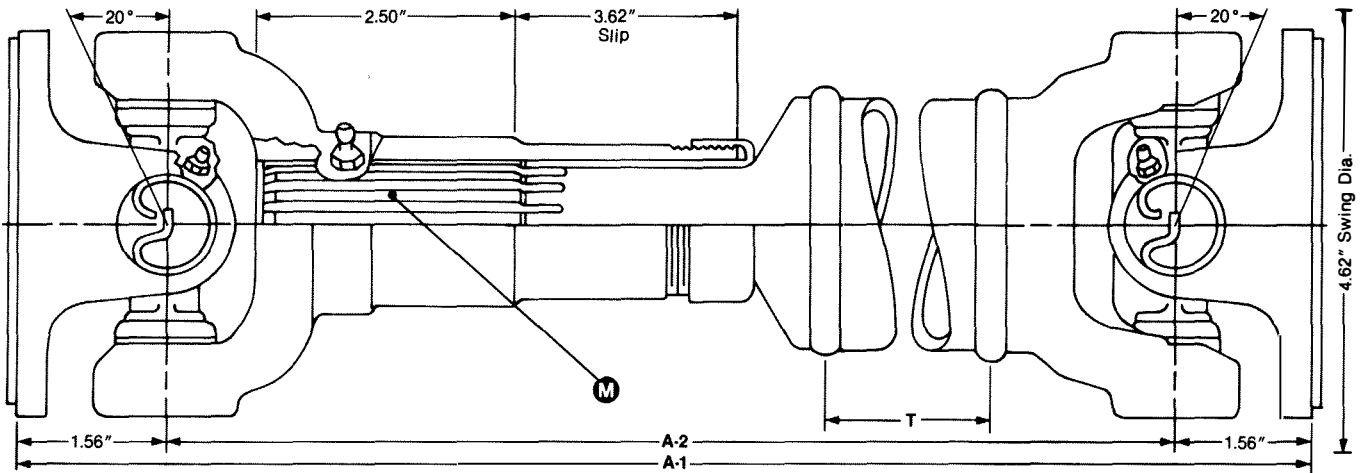
U-Joint Kit
 Dust Cap Kit
 Tube Size
 Tube Part Number
 Approximate Weight

5-178X
D3A
 3" x .083" Welded
 24-30-42-
 25 lbs.
 plus 2.5 lbs. per
 foot of tubing

Tube Type Assembly

**Series
 1350**

Intermediate Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke	

Glidecote® Spline Assembly

M = 1.50" - 16 Spline

Tubeing Formula: T = A-1 (Collapsed) minus 13.50" Minimum T = 1.47"

14.96"	11.84"	3-2-119	3-3-488KX	3-40-1611	3-28-57	3-2-119	909048
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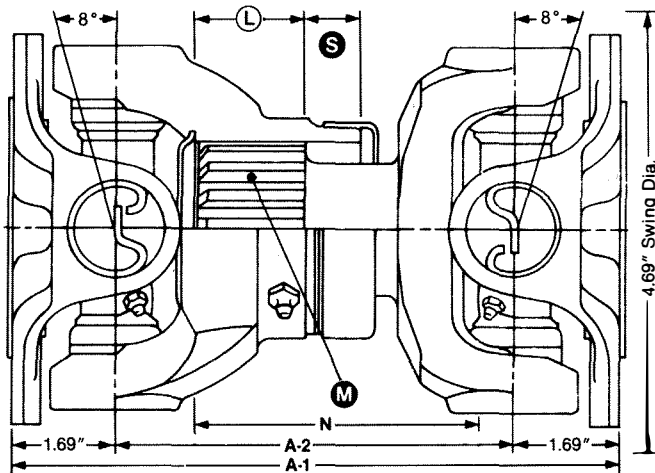
Series 1410

Short Coupled Assembly

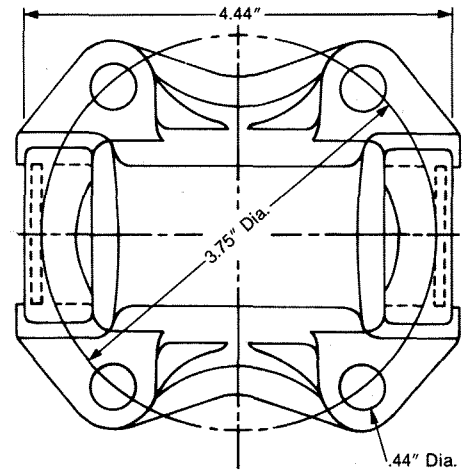
Standard Parts
U-Joint Kit
Approximate Weight

5-160X
13.5 lbs.

Short Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke	

M = 1.50" - 16 Spline

L = 2"

S = .75"

Dust Cap Kit **D3A**

9.50"

6.12"

3-2-159

3-3-468KX

3-82-81

4.38"

3-2-159

8134-SF

M = 1.75" - 16 Spline

L = 1.44"

S = 1"

Dust Cap Kit **D4F**

8.73"

5.35"

3-2-159

3-3-1511KX

3-82-261

3.95"

3-2-159

905747-1

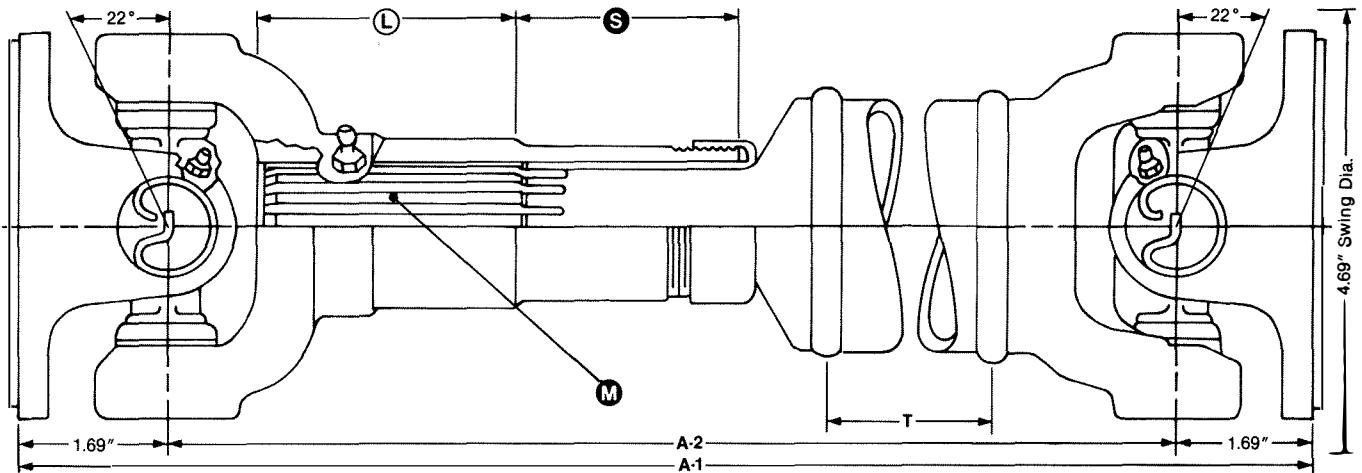
Standard Part
Approximate Weight

25 lbs.
plus 3.1 lbs. per
foot of tubing

Tube Type Assembly

Series 1410

Intermediate and Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 1.50"-16 Spline **L** = 3" **S** = 2.34" U-Joint Kit 5-160X Tube Size 3.50" x .083" Welded Tube Part Number 28-30-62-
Dust Cap Kit D3A

Tubing Formula: $T = A-2$ (Collapsed) minus 9.84" Minimum $T = 1.41"$

—	11.25"	S.S.	3-3-118KX	3-40-1531	3-28-557	S.S.	905751 (1)
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Tubing Formula: $T = A-1$ (Collapsed) minus 13.22" Minimum $T = 1.41"$

14.62"	11.25"	3-2-159	3-3-118KX	3-40-1531	3-28-557	3-2-159	905753
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M = 1.50"-16 Spline **L** = 3" **S** = 3.47" U-Joint Kit 5-160X Tube Size 3.50" x .083" Welded Tube Part Number 28-30-62-
Dust Cap Kit D3A

Tubing Formula: $T = A-2$ (Collapsed) minus 11" Minimum $T = 1.44"$

—	12.44"	S.S.	3-3-508KX	3-40-1491	3-28-557	S.S.	905785
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Tubing Formula: $T = A-1$ (Collapsed) minus 14.38" Minimum $T = 1.44"$

15.81"	12.44"	3-2-159	3-3-508KX	3-40-1491	3-28-557	3-2-159	905755
15.81"	12.44"	3-2-159	3-3-508KX	3-40-1491	3-28-557	3-2-159	909047

M = 1.56"-16 Spline **L** = 5" **S** = 4.50" U-Joint Kit 5-262X Tube Size 3" x .083" Welded Tube Part Number 24-30-42-
Dust Cap Kit D3H

Tubing Formula: $T = A-1$ (Collapsed) minus 21.53" Minimum $T = 1.38"$

22.91"	18.91"	3-2-429	3-3-2381KX	3-40-1711	3-28-97	3-2-429	909481
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(1) 30° Maximum angle.

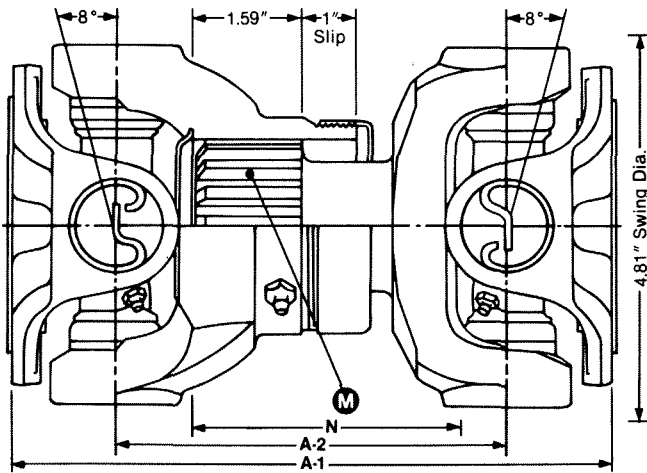
Series 1480

Short Coupled Assembly

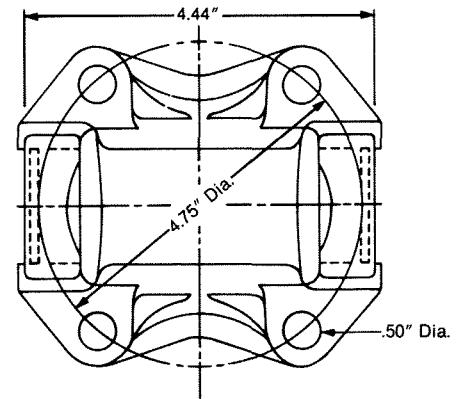
Standard Parts
U-Joint Kit
Dust Cap Kit
Approximate Weight

5-188X
D3D
19.5 lbs.

Short Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke	

M = 2.25" -10 Spline

8.50"	5.50"	3-2-489	3-3-1621KX	3-82-271	3.68"	3-2-489	202990-1
9.00"	5.50"	3-2-489	3-3-1621KX	3-82-271	3.68"	3-2-479	202990-2
9.50"	5.50"	3-2-479	3-3-1621KX	3-82-271	3.68"	3-2-479	202990-3
7.00"	5.50"	S.S.	3-3-1621KX	3-82-271	3.68"	3-2-489	908167-1
7.50"	5.50"	S.S.	3-3-1621KX	3-82-271	3.68"	3-2-479	908167-2

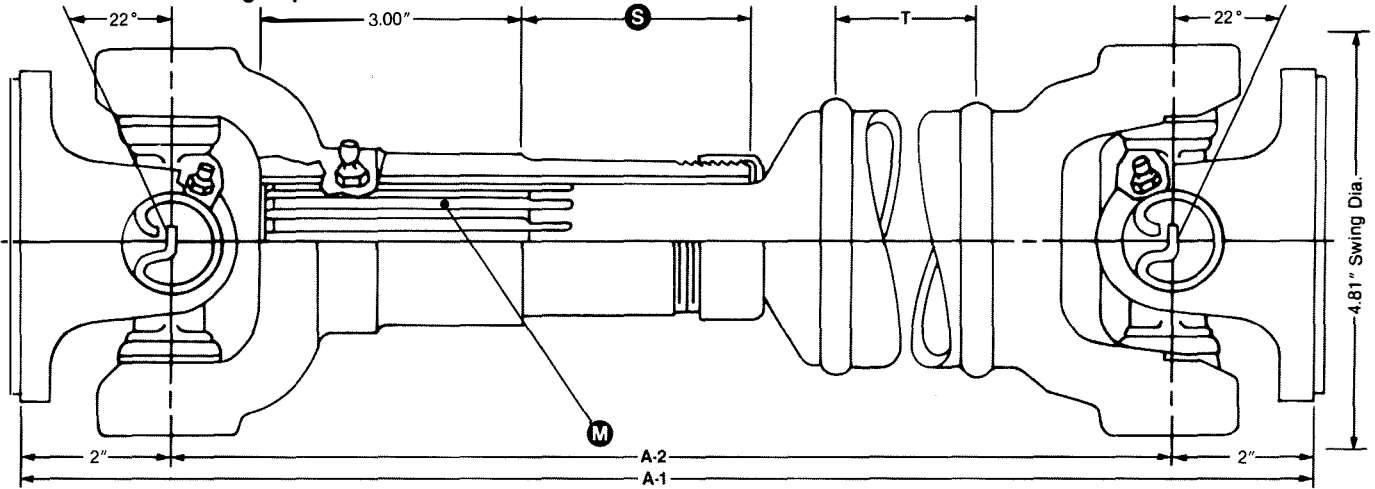
Standard Parts
 U-Joint Kit
 Dust Cap Kit
 Approximate Weight

5-188X
 D3H
 27 lbs.
 plus 3.1 lbs. per
 foot of tubing

Tube Type Assembly

Series 1480

Intermediate and Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 1.56"-16 Spline **S** = 2.50" Tube Size 3.50" x .083" Welded Tube Part Number 28-30-62-

Tubing Formula: T = A-2 (Collapsed) minus 10.09" Minimum T = 1.41"

—	11.50"	S.S.	3-3-1601KX	3-40-1571	3-28-537	S.S.	202988
13.50" (1)	11.50"	3-2-479	3-3-1601KX	3-40-1571	3-28-537	S.S.	202987

Tubing Formula: T = A-1 (Collapsed) minus 14.09" Minimum T = 1.41"

15.50"	11.50"	3-2-479	3-3-1601KX	3-40-1571	3-28-537	3-2-479	908048
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M = 1.56"-16 Spline **S** = 4.50" Tube Size 3.50" x .083" Welded Tube Part Number 28-30-62-

Tubing Formula: T = A-2 (Collapsed) minus 13.06" Minimum T = 1.38"

—	14.44"	S.S.	3-3-1641KX	3-40-1391	3-28-547	S.S.	203006 (2)
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Tubing Formula: T = A-2 (Collapsed) minus 12.78" Minimum T = 1.40"

16.18" (1)	14.18"	3-2-479	3-3-1641KX	3-40-1391	3-28-537	S.S.	203139
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M = 1.56"-16 Spline **S** = 4.50" Tube Size 4" x .083" Welded Tube Part Number 32-30-22-

Tubing Formula: T = A-2 (Collapsed) minus 12.97" Minimum T = 1.41"

—	14.38"	S.S.	3-3-1641KX	3-40-1551	3-28-507	S.S.	902421 (2)
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(1) Dimension is from Flange Face to center of cross on opposite end.
 (2) 35° at Slip End and 37° at Tight End.

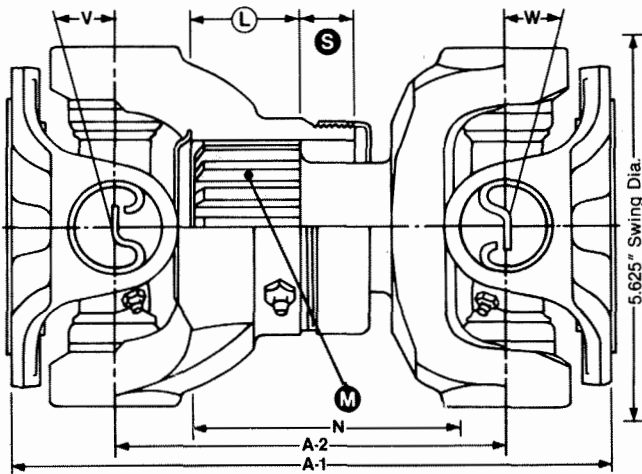
Series 1550

Short Coupled Assembly

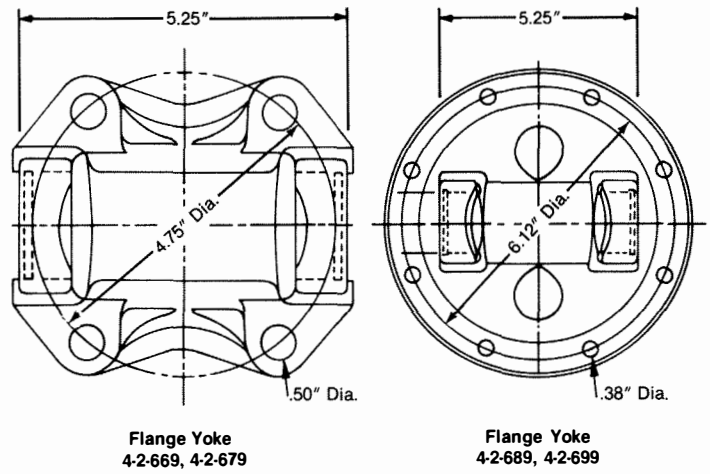
Standard Parts
U-Joint Kit
Approximate Weight

5-155X
29.5 lbs.

Short Slip



Flange Yokes



Minimum Length Collapsed		Slip Joint End			Tight Joint End				Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	V Maximum Angle	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle	

M = 2.50" - 16 Spline **L** = 1.56" **S** = 1" Dust Cap Kit **D4L**

8.50"	5.50"	4-2-679	4-3-1261KX	5°	4-82-191	3.88"	4-2-679	8°	204249-1
8.75"	5.75"	4-2-679	4-3-1261KX	5°	4-82-201	4.12"	4-2-679	8°	204249-2
9.00"	5.50"	4-2-669	4-3-1261KX	5°	4-82-191	3.88"	4-2-679	8°	204249-3
9.25"	5.75"	4-2-669	4-3-1261KX	5°	4-82-201	4.12"	4-2-679	8°	204249-4
9.50"	5.50"	4-2-669	4-3-1261KX	5°	4-82-191	3.88"	4-2-669	11°	204249-5
9.75"	5.75"	4-2-669	4-3-1261KX	5°	4-82-201	4.12"	4-2-669	10°	204249-6
9.50"	5.50"	4-2-689	4-3-1261KX	8°	4-82-191	3.88"	4-2-669	8°	207785-1

M = 1.75" - 16 Spline **L** = 2.50" **S** = 1.50" Dust Cap Kit **D4J**

—	8.19"	S.S.	4-3-1751KX	21°	4-82-371	6.12"	S.S.	21°	908657-1
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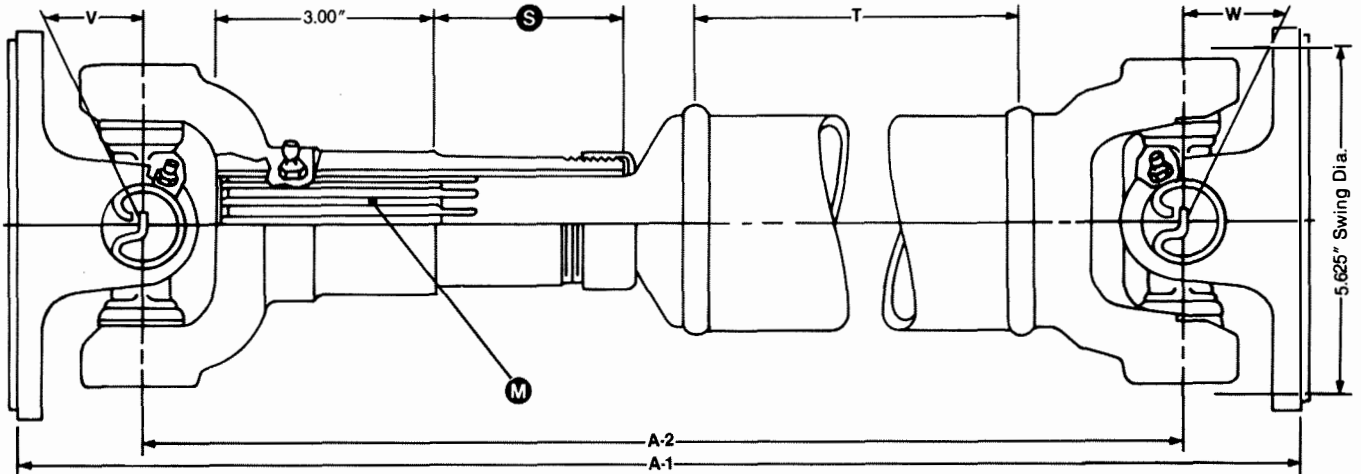
Standard Parts

U-Joint Kit 5-155X
 Dust Cap Kit D4J
 Tube Size 3.50" x .095" Welded
 Tube Part Number 28-30-22-
 Approximate Weight 37 lbs.
 plus 3.3 lbs. per foot of tubing

Tube Type Assembly

Series 1550

Intermediate and Long Slip



Minimum Length Collapsed		Slip Joint End				Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	V Maximum Angle	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle	

Glidecote® Spline Assemblies

M = 1.75"-16 Spline **S** = 2.50"

Tube Formula: T = A-2 (Collapsed) minus 10.34" Minimum T = 1.41"

—	11.75"	S.S.	4-3-1241KX	4-40-761	22°	4-28-307	S.S.	22°	906366
13.75" (1)	11.75"	4-2-669	4-3-1241KX	4-40-761	21°	4-28-307	S.S.	23°	207175
13.75" (1)	11.75"	S.S.	4-3-1241KX	4-40-761	22°	4-28-307	4-2-699	22°	902241

Tube Formula: T = A-1 (Collapsed) minus 14.34" Minimum T = 1.41"

15.75"	11.75"	4-2-689	4-3-1241KX	4-40-761	22°	4-28-307	4-2-669	22°	907540
15.75"	11.75"	4-2-689	4-3-1241KX	4-40-761	21°	4-28-307	4-2-699	21°	907929

Tube Formula: T = A-1 (Collapsed) minus 14.34" Minimum T = 1.41"

15.75"	11.75"	4-2-669	4-3-1241KX	4-40-761	22°	4-28-307	4-2-669	22°	909469
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M = 1.75"-16 Spline **S** = 5"

Tube Formula: T = A-2 (Collapsed) minus 10.34" Minimum T = 1.41"

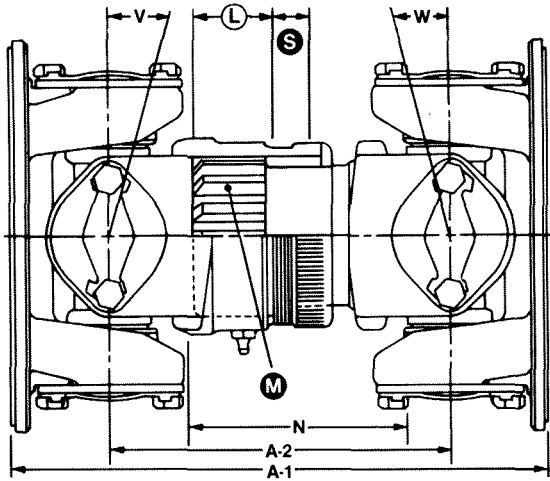
—	15.38"	S.S.	4-3-1431KX	4-40-721	35°	4-28-417	S.S.	35°	207728
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(1) Dimension is from Flange Face to center of cross on opposite end.

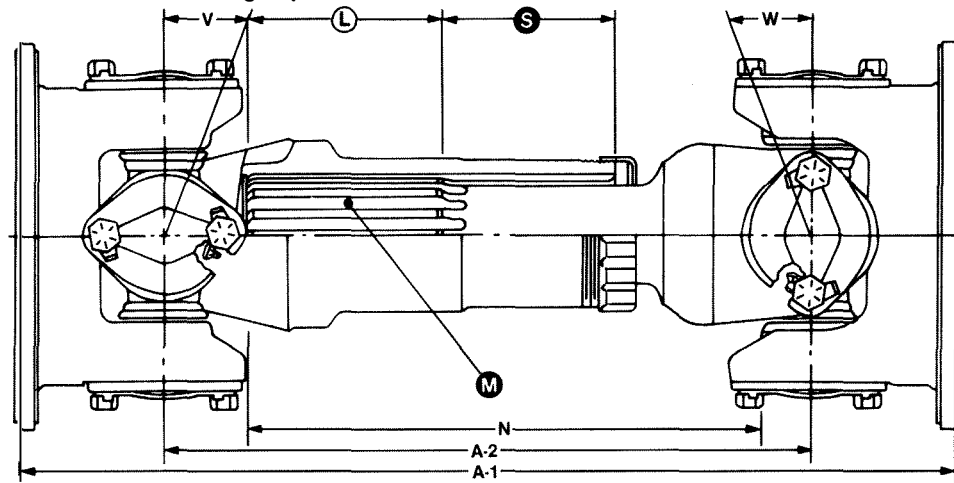
Series 1610

Short Coupled Assembly

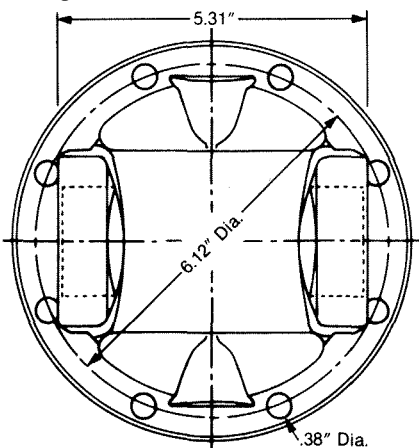
Short Slip



Intermediate and Long Slip



Flange Yoke



Standard Parts
U-Joint Kit
Approximate Weight

5-279X
44 lbs.

Short Coupled Assembly

Series 1610

Minimum Length Collapsed		Slip Joint End			Tight Joint End				Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke L.W. (Lock Wire (1)) or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	V Maximum Angle (2)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke L.W. (Lock Wire (1)) or S.S. (Shipping Strap)	W Maximum Angle (2)	

M = 2.673"-18 Involute Spline **L** = 1.50" **S** = .75" Dust Cap Kit D5C

—	5.38"	S.S.	5-3-168KX	8°	5-82-161	3.19"	S.S.	8°	906256-1
—	5.88"	S.S.	5-3-188KX	8°	5-82-161	3.19"	S.S.	8°	906256-3
—	6.12"	S.S.	5-3-198KX	8°	5-82-161	3.19"	S.S.	8°	906256-4
9.12"	5.38"	5-2-379	5-3-168KX	8°	5-82-161	3.19"	5-2-379	8°	906224-1
9.62"	5.88"	5-2-379	5-3-188KX	8°	5-82-161	3.19"	5-2-379	8°	906224-3
9.88"	6.12"	5-2-379	5-3-198KX	8°	5-82-161	3.19"	5-2-379	8°	906224-4
10.00"	5.38"	5-2-379	5-3-168KX	8°	5-82-161	3.19"	5-2-279	8°	906224-5
10.50"	5.88"	5-2-379	5-3-188KX	8°	5-82-161	3.19"	5-2-279	8°	906224-7
10.75"	6.12"	5-2-379	5-3-198KX	8°	5-82-161	3.19"	5-2-279	8°	906224-8
10.88"	5.38"	5-2-279	5-3-168KX	8°	5-82-161	3.19"	5-2-279	8°	906224-9
11.38"	5.88"	5-2-279	5-3-188KX	8°	5-82-161	3.19"	5-2-279	8°	906224-11
11.62"	6.12"	5-2-279	5-3-198KX	8°	5-82-161	3.19"	5-2-279	8°	906224-12

Glidecote® Spline Assemblies

M = 2"-16 Spline **L** = 3.50" **S** = 2.88" Dust Cap 5-86-68

—	14.00"	L.W.	5-3-288KX	25°/26°	5-82-831-1	11.12"	L.W.	30°/35°	907276-1
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M = 2"-16 Spline **L** = 3.50" **S** = 5.50" Dust Cap 5-86-68

—	17.34"	L.W.	5-3-2141KX	45°	5-82-751-10	13.47"	L.W.	45°	905908-6
—	17.94"	L.W.	5-3-2141KX	45°	5-82-751-2	14.06"	L.W.	45°	905908-2
—	18.44"	L.W.	5-3-2141KX	45°	5-82-751-5	14.56"	L.W.	45°	905908-5
—	18.88"	L.W.	5-3-2141KX	45°	5-82-751-1	15.00"	L.W.	45°	905908-1
—	19.25"	L.W.	5-3-2141KX	45°	5-82-751-3	15.38"	L.W.	45°	905908-3

(1) When shipped with Lock Wire, order bearing cap bolts 5-73-109 separately.

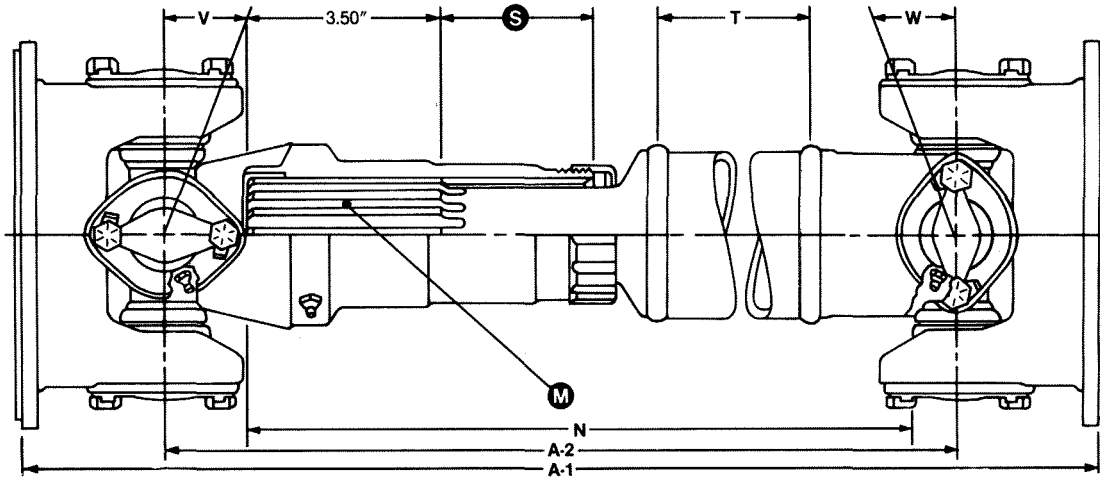
(2) The angles shown are maximum for momentary operation.

Example 21°/25°, 21° angle when mated with long lug,
25° angle when mated with short lug.

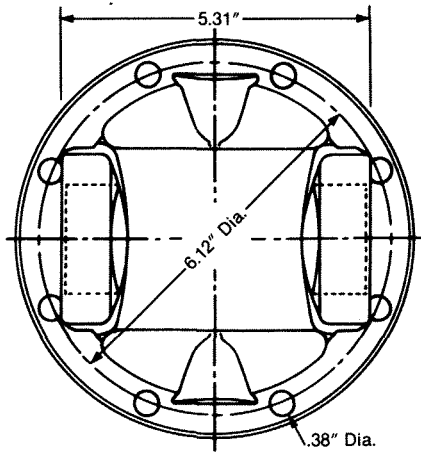
Series 1610

Tube Type Assembly

Intermediate and Long Slip



Flange Yoke



Standard Parts
U-Joint Kit
Dust Cap
Approximate Weight

5-279X
5-86-68
45 lbs.
plus 4.8 lbs. per
foot of tubing

Tube Type Assembly

Series 1610

Minimum Length Collapsed		Slip Joint End				Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	V Maximum Angle (1)	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle (1)	

Glidecote® Spline Assemblies

M = 2"-16 Spline **S** = 2.88" Tube Size 3.50" x .134" Welded Tube Part Number 28-30-92-

Tubing Formula: T = A-2 (Collapsed) minus 12" Minimum T = 2.31"

—	14.31"	S.S.	5-3-108KX	5-40-1191	20°	5-28-627	S.S.	28°/34°	908465
17.06" (2)	14.31"	5-2-249	5-3-108KX	5-40-1191	20°	5-28-627	S.S.	28°/34°	908363
17.06" (2)	14.31"	5-2-279	5-3-108KX	5-40-1191	20°	5-28-627	S.S.	28°/34°	908592

Tubing Formula: T = A-1 (Collapsed) minus 17.50" Minimum T = 2.31"

19.81"	14.31"	5-2-279	5-3-108KX	5-40-1191	20°	5-28-627	5-2-279	26°	907849
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M = 2"-16 Spline **S** = 4.88" Tube Size 3.50" x .134" Welded Tube Part Number 28-30-92-

Tubing Formula: T = A-2 (Collapsed) minus 15.125" Minimum T = 2.31"

—	17.44"	S.S.	5-3-2261KX	5-40-1011	28°/34°	5-28-627	S.S.	28°/34°	906420 (3)
—	17.44"	S.S.	5-3-2261KX	5-40-1011	28°/34°	5-28-627	S.S.	28°/34°	906258
20.19" (2)	17.44"	5-2-249	5-3-2261KX	5-40-1011	26°	5-28-627	S.S.	28°/34°	907219

Tubing Formula: T = A-1 (Collapsed) minus 20.63" Minimum T = 2.31"

22.94"	17.44"	5-2-279	5-3-2261KX	5-40-1011	26°	5-28-627	5-2-279	26°	906257
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M = 2"-16 Spline **S** = 4.88" Tube Size 4" x .134" Welded Tube Part Number 32-30-52-

Tubing Formula: T = A-2 (Collapsed) minus 15.28" Minimum T = 2.28"

—	17.56"	S.S.	5-3-2261KX	5-40-1051	34°/30°	5-28-327	S.S.	26°/21°	906960
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M = 2"-16 Spline **S** = 5.50" Tube Size 3.50" x .134" Welded Tube Part Number 28-30-92-

Tubing Formula: T = A-2 (Collapsed) minus 18" Minimum T = 1.56"

—	19.56"	S.S.	5-3-2141KX	5-40-1041	45°	5-28-667	S.S.	45°	907267
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(1) The angles shown are maximum for momentary operation.

Example: 28°/34° 28° angle when mated with long lug.

34° angle when mated with short lug.

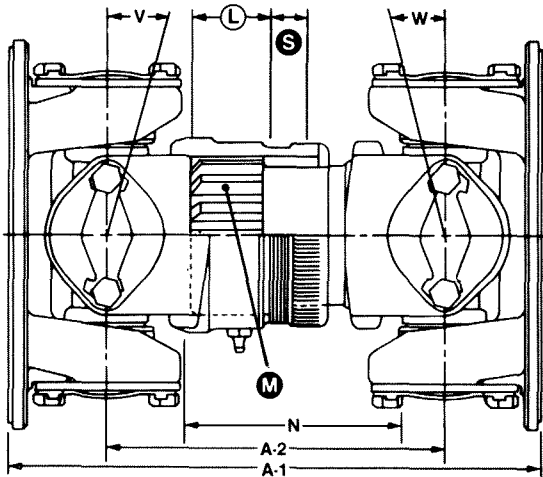
(2) Dimension is from Flange Face to center of cross on opposite end.

(3) Unwelded at Tube Shaft.

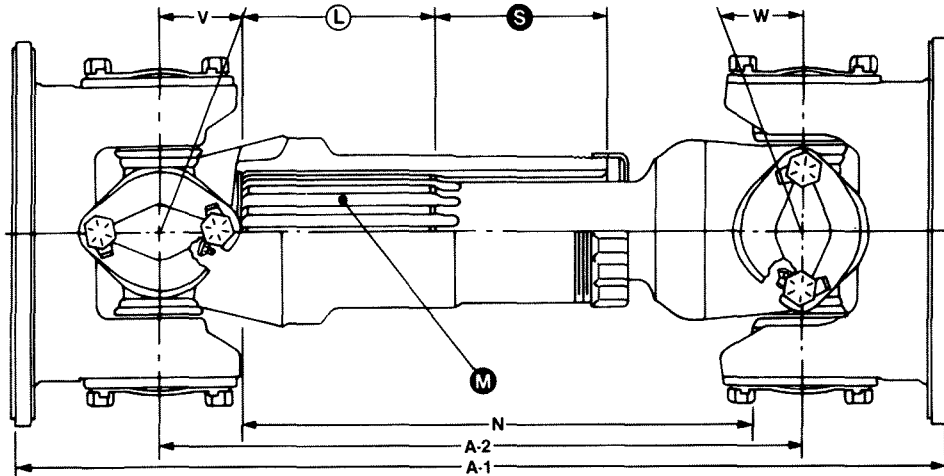
Series 1710

Short Coupled Assembly

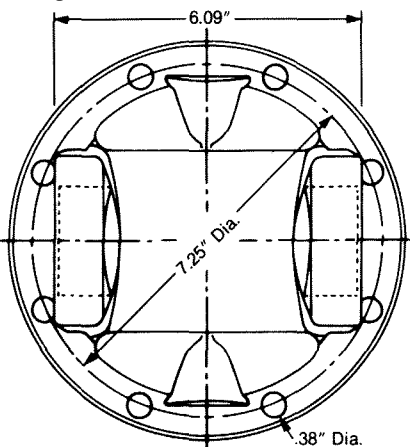
Short Slip



Intermediate and Long Slip



Flange Yoke



Standard Parts
U-Joint Kit
Approximate Weight

5-280X
47-68 lbs.

Short Coupled Assembly

Series 1710

Minimum Length Collapsed		Slip Joint End			Tight Joint End				Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	V Maximum Angle (1)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle (1)	

M = 3.25"-18 Involute Spline **L** = 2" **S** = .75" Dust Cap Kit D6E

—	6.62"	S.S.	6-3-1661KX	8°	6-82-341	4.28"	S.S.	8°	906020-1
—	7.38"	S.S.	6-3-1481KX	8°	6-82-341	4.28"	S.S.	8°	906020-4
10.62"	6.62"	6-2-769	6-3-1661KX	8°	6-82-341	4.28"	6-2-769	8°	904657-1
11.38"	7.38"	6-2-769	6-3-1481KX	8°	6-82-341	4.28"	6-2-769	8°	904657-4
11.62"	6.62"	6-2-769	6-3-1661KX	8°	6-82-341	4.28"	6-2-749	8°	904657-5
12.38"	7.38"	6-2-769	6-3-1481KX	8°	6-82-341	4.28"	6-2-749	8°	904657-8
12.62"	6.62"	6-2-749	6-3-1661KX	8°	6-82-341	4.28"	6-2-749	8°	904657-9
13.38"	7.38"	6-2-749	6-3-1481KX	8°	6-82-341	4.28"	6-2-749	8°	904657-12

Glidecote® Spline Assemblies

M = 2.50"-16 Spline **L** = 3.50" **S** = 2.25" Dust Cap 6.3-86-18

—	11.38"	S.S.	6-3-2741KX	20°	6-82-1171-10	8.68"	S.S.	24°/29°	906021-1
—	11.88"	S.S.	6-3-2741KX	20°	6-82-1171-11	9.18"	S.S.	24°/29°	906021-2
—	12.38"	S.S.	6-3-2741KX	20°	6-82-1171-12	9.68"	S.S.	24°/29°	906021-3
—	13.38"	S.S.	6-3-2741KX	20°	6-82-1171-13	10.68"	S.S.	24°/29°	906021-5
17.38"	11.38"	6-2-749	6-3-2741KX	20°	6-82-1171-10	8.68"	6-2-749	24°	906324-1
17.88"	11.88"	6-2-749	6-3-2741KX	20°	6-82-1171-11	9.18"	6-2-749	24°	906324-2
18.38"	12.38"	6-2-749	6-3-2741KX	20°	6-82-1171-12	9.68"	6-2-749	24°	906324-3
19.38"	13.38"	6-2-749	6-3-2741KX	20°	6-82-1171-13	10.68"	6-2-749	24°	906324-5

M = 2.50"-16 Spline **L** = 4" **S** = 3.88" Dust Cap 6.3-86-18

—	13.88"	S.S.	6-3-2671KX	20°	6-82-1091-1	11.18"	S.S.	24°/29°	906017-1
—	14.00"	S.S.	6-3-2671KX	20°	6-82-1091-13	11.31"	S.S.	24°/29°	906017-5
—	14.38"	S.S.	6-3-2671KX	20°	6-82-1091-8	11.68"	S.S.	24°/29°	906017-6
—	14.88"	S.S.	6-3-2671KX	20°	6-82-1091-2	12.18"	S.S.	24°/29°	906017-2
—	15.62"	S.S.	6-3-2671KX	20°	6-82-1091-15	12.94"	S.S.	24°/29°	906017-7
—	15.88"	S.S.	6-3-2671KX	20°	6-82-1091-3	13.18"	S.S.	24°/29°	906017-3
19.88"	13.88"	6-2-749	6-3-2671KX	20°	6-82-1091-1	11.18"	6-2-749	24°/29°	906676-1

M = 2.50"-16 Spline **L** = 4" **S** = 5.25" Dust Cap 6.3-86-18

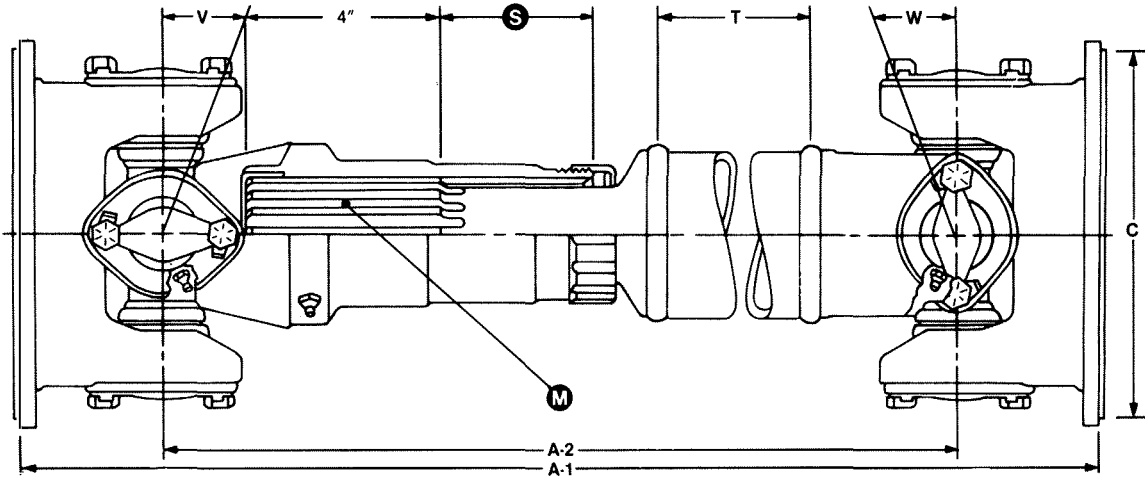
—	15.88"	S.S.	6-3-2651KX	23°/29°	6-82-1091-4	12.47"	S.S.	24°/29°	906019-1
—	16.06"	S.S.	6-3-2651KX	23°/29°	6-82-1091-9	12.66"	S.S.	24°/29°	906019-4
—	16.50"	S.S.	6-3-2651KX	23°/29°	6-82-1091-10	13.09"	S.S.	24°/29°	906019-5
—	17.00"	S.S.	6-3-2651KX	23°/29°	6-82-1091-5	13.59"	S.S.	24°/29°	906019-2

(1) The angles shown are maximum for momentary operation.
Example: 24°/29° 24° angle when mated with long lug,
29° angle when mated with short lug.

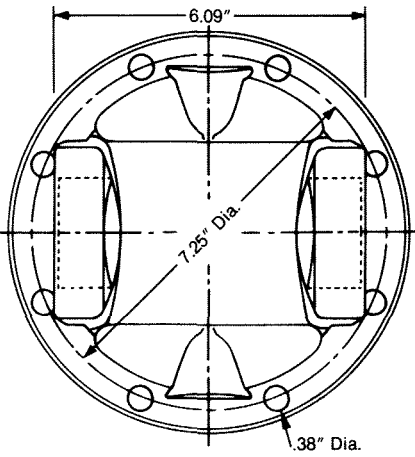
Series 1710

Tube Type Assembly

Intermediate and Long Slip



Flange Yoke



Flange Yoke Part Number	C Male Pilot Diameter
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6-2-749	7.75"
6-2-759	8.00"
6-2-769	7.75"
6-2-789	6.44"

Standard Parts
 U-Joint Kit
 Dust Cap
 Tube Size
 Tube Part Number
 Approximate Weight

5-280X
 6.3-86-18
 4" x .134" Welded } (except where Footnoted)
 32-30-52- }
 68 lbs.
 plus 5.5 lbs. per foot of tubing

Tube Type Assembly

Series 1710

Minimum Length Collapsed		Slip Joint End				Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	V Maximum Angle (1)	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle (1)	

Glidecote® Spline Assemblies

M = 2.50"-16 Spline **S** = 3.12"

Tubing Formula: T = A-2 (Collapsed) minus 13.19" Minimum T = 2.11"

—	15.50"	S.S.	6-3-2631KX	6-40-711	20°	6-28-347	S.S.	22°/29°	907882
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Tubing Formula: T = A-1 (Collapsed) minus 19.19" Minimum T = 2.11"

21.50"	15.50"	6-2-749	6-3-2631KX	6-40-711	20°	6-28-347	6-2-749	22°/29°	907883
21.50"	15.50"	6-2-789	6-3-2631KX	6-40-711	20°	6-28-347	6-2-749	22°/29°	907691

M = 2.50"-16 Spline **S** = 3.88"

Tubing Formula: T = A-2 (Collapsed) minus 14" Minimum T = 2.31"

—	16.31"	S.S.	6-3-2671KX	6-40-541	20°	6-28-347	S.S.	22°/29°	905569
—	16.31"	S.S.	6-3-2671KX	6-40-541	20°	6-28-347	S.S.	22°/29°	907817 (2)
19.31" (4)	16.31"	S.S.	6-3-2671KX	6-40-541	20°	6-28-347	6-2-749	22°/29°	907742
19.31" (4)	16.31"	6-2-749	6-3-2671KX	6-40-541	20°	6-28-347	S.S.	22°/29°	907775
19.31" (4)	16.31"	6-2-789	6-3-2671KX	6-40-541	20°	6-28-347	S.S.	22°/29°	908628

Tubing Formula: T = A-1 (Collapsed) minus 20" Minimum T = 2.31"

22.31"	16.31"	6-2-749	6-3-2671KX	6-40-541	20°	6-28-347	6-2-749	22°/29°	906802
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Tubing Formula: T = A-2 (Collapsed) minus 14.25" Minimum T = 2.31"

—	16.56"	S.S.	6-3-2671KX	6-40-631	20°	6-28-407	S.S.	20°/29°	905564 (3)
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M = 2.50"-16 Spline **S** = 5.25"

Tubing Formula: T = A-2 (Collapsed) minus 16.03" Minimum T = 2.35"

—	18.38"	S.S.	6-3-2651KX	6-40-521	23°/28°	6-28-347	S.S.	22°/29°	905343
—	18.38"	S.S.	6-3-2651KX	6-40-521	23°/28°	6-28-347	S.S.	22°/29°	907229 (2)
21.38" (4)	18.38"	S.S.	6-3-2651KX	6-40-521	23°/28°	6-28-347	6-2-749	22°/29°	906202
21.38" (4)	18.38"	6-2-749	6-3-2651KX	6-40-521	23°/28°	6-28-347	S.S.	22°/29°	908165
21.38" (4)	18.38"	6-2-759	6-3-2651KX	6-40-521	23°/28°	6-28-347	S.S.	22°/29°	907289

Tubing Formula: T = A-1 (Collapsed) minus 22.03" Minimum T = 2.35"

24.38"	18.38"	6-2-749	6-3-2651KX	6-40-521	23°/28°	6-28-347	6-2-749	22°/29°	906198
24.38"	18.38"	6-2-759	6-3-2651KX	6-40-521	23°/28°	6-28-347	6-2-749	22°/29°	906156
24.38"	18.38"	6-2-789	6-3-2651KX	6-40-521	23°/28°	6-28-347	6-2-749	22°/29°	906200

Tubing Formula: T = A-2 (Collapsed) minus 16.12" Minimum T = 2.32"

—	18.44"	S.S.	6-3-2651KX	6-40-621	23°/28°	6-28-407	S.S.	20°/29°	905566 (3)
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Tubing Formula: T = A-1 (Collapsed) minus 22.12" Minimum T = 2.32"

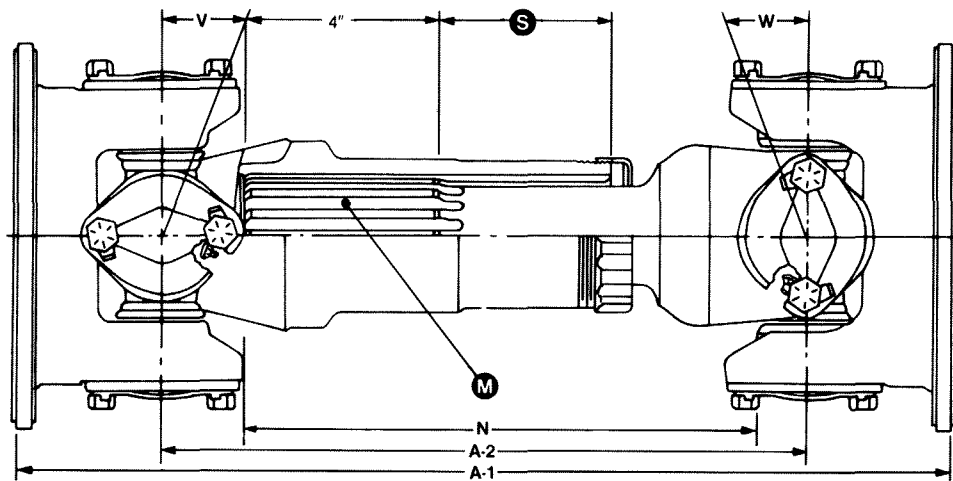
24.44"	18.44"	6-2-749	6-3-2651KX	6-40-621	23°/28°	6-28-407	6-2-749	20°/29°	907773 (3)
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(1) The angles shown are maximum for momentary operation. Example 23°/28°, 23° angle when mated with long lug, 28° angle when mated with short lug. (2) Assembly with 4.09" x 180° Welded Tube Size. Tube Part Number 32-30-72-. (3) Assembly with 4.50" x .134" Welded Tube Size. Tube Part Number 36-30-62-. (4) Dimension is from flange face to center of cross on opposite end.

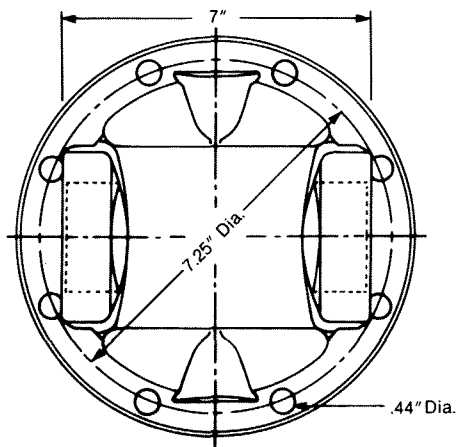
Series 1760

Short Coupled Assembly

Intermediate and Long Slip



Flange Yoke



Standard Parts
 U-Joint Kit
 Dust Cap
 Approximate Weight

5-407X
 6.3-86-18
 71 lbs.

Short Coupled Assembly

Series 1760

Minimum Length Collapsed		Slip Joint End			Tight Joint End				Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	V Maximum Angle	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle	

Glidecote® Spline Assemblies

M = 2.50"-16 Spline

S = 3.88"

—	12.38"	S.S.	6.3-3-41KX	22°	6.3-82-21-1	10.03"	S.S.	30°	910664-1
—	12.88"	S.S.	6.3-3-41KX	22°	6.3-82-21-2	10.53"	S.S.	30°	910664-2
—	13.38"	S.S.	6.3-3-41KX	22°	6.3-82-21-3	11.03"	S.S.	30°	910664-3
—	13.88"	S.S.	6.3-3-41KX	22°	6.3-82-21-4	11.53"	S.S.	30°	910664-4
19"	12.38"	6.3-2-19	6.3-3-41KX	20½°	6.3-82-21-1	10.03"	6.3-2-19	30°	912403-1
19.50"	12.88"	6.3-2-19	6.3-3-41KX	20½°	6.3-82-21-2	10.53"	6.3-2-19	30°	912403-2
20"	13.38"	6.3-2-19	6.3-3-41KX	20½°	6.3-82-21-3	11.03"	6.3-2-19	30°	912403-3
20.50"	13.88"	6.3-2-19	6.3-3-41KX	20½°	6.3-82-21-4	11.53"	6.3-2-19	30°	912403-4

M = 2.50"-16 Spline

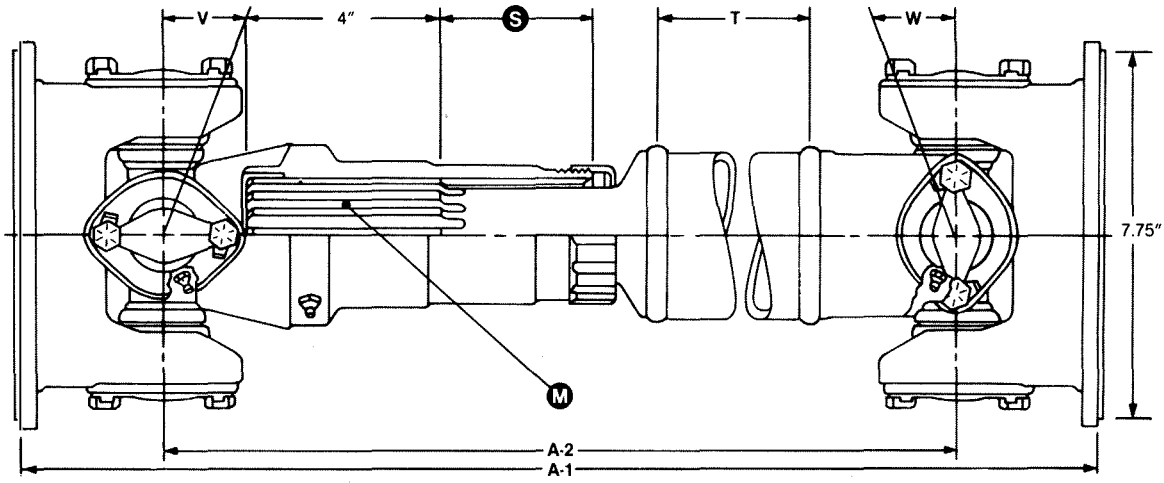
S = 5.25"

—	14.28"	S.S.	6.3-3-21KX	30°	6.3-82-21-5	11.41"	S.S.	30°	910665-1
—	14.78"	S.S.	6.3-3-21KX	30°	6.3-82-21-6	11.91"	S.S.	30°	910665-2
—	15.28"	S.S.	6.3-3-21KX	30°	6.3-82-21-7	12.41"	S.S.	30°	910665-3
—	15.78"	S.S.	6.3-3-21KX	30°	6.3-82-21-8	12.91"	S.S.	30°	910665-4
—	16.28"	S.S.	6.3-3-21KX	30°	6.3-82-21-9	13.41"	S.S.	30°	910665-5
—	16.78"	S.S.	6.3-3-21KX	30°	6.3-82-21-10	13.91"	S.S.	30°	910665-6
—	17.28"	S.S.	6.3-3-21KX	30°	6.3-82-21-11	14.41"	S.S.	30°	910665-7

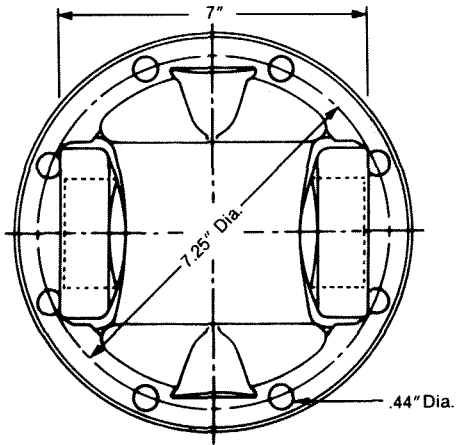
Series 1760

Tube Type Assembly

Intermediate Slip



Flange Yoke



Standard Parts

U-Joint Kit **5-407X**
 Dust Cap **6.3-86-18**
 Tube Size 4.06" x .165" Welded
 Tube Part Number 32-30-102-
 Approximate Weight 71 lbs.
 plus 5.9 lbs. per
 foot of tubing

Tube Type Assembly

**Series
1760**

Minimum Length Collapsed		Slip Joint End				Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	V Maximum Angle	Tube Yoke	Flange Yoke	W Maximum Angle	

Glidecote® Spline Assemblies

M = 2.50"-16 Spline **S** = 3.88"

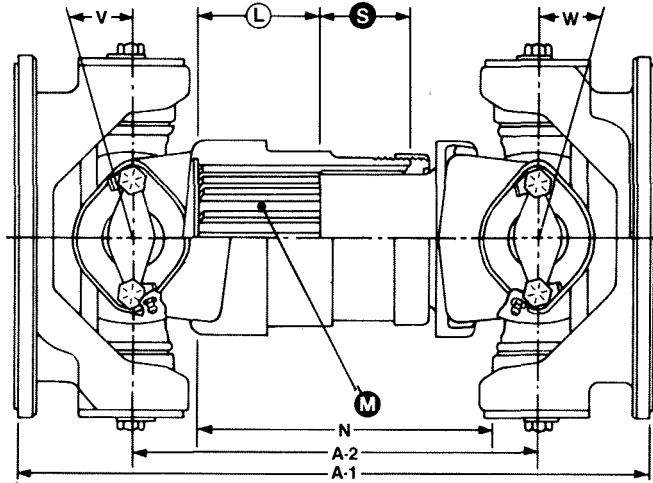
Tubeing Formula: T = A-1 (Collapsed) minus 20.41" Minimum T = 2.31"

22.72"	15.96"	6.3-2-19	6.3-3-41KX	6-40-541	20½°	6.3-28-17	6.3-2-19	30°	911131
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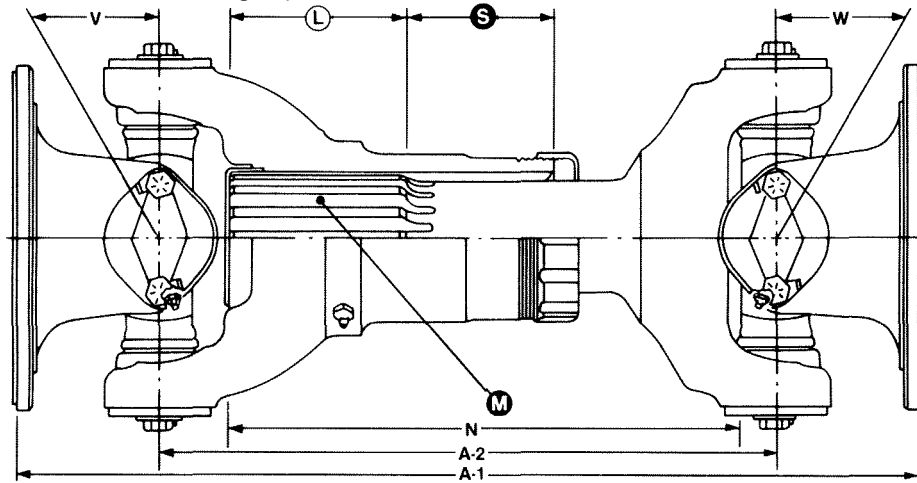
Series 1810

Short Coupled Assembly

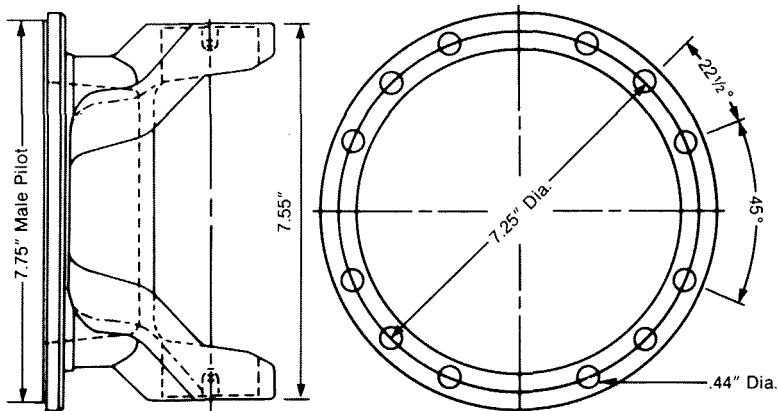
Short Slip



Intermediate and Long Slip



Flange Yoke



Standard Parts
U-Joint Kit
Approximate Weight

5-281X
78-82 lbs.

Short Coupled Assembly

Series 1810

Minimum Length Collapsed		Slip Joint End			Tight Joint End				Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	V Maximum Angle	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	W Maximum Angle	

M = 3.25" - 18 Involute Spline **L** = 2.75" **S** = 1.12" Dust Cap Kit **D6E**

13.40"	8.21"	6.5-2-359	6.5-3-1451KX	12°	6.5-82-511-1	5.75"	6.5-2-359	12°	906052-1
13.90"	8.71"	6.5-2-359	6.5-3-1451KX	12°	6.5-82-511-3	6.25"	6.5-2-359	12°	906052-3
14.97"	8.21"	6.5-2-329	6.5-3-1451KX	12°	6.5-82-511-1	5.75"	6.5-2-329	12°	908191-1
15.47"	8.71"	6.5-2-329	6.5-3-1451KX	12°	6.5-82-511-3	6.25"	6.5-2-329	12°	908191-3

Glidecote® Spline Assemblies

M = 3"-16 Spline **L** = 4" **S** = 3.38" Dust Cap 6.5-86-38

19.75"	13.00"	6.5-2-329	6.5-3-1431KX	23°	6.5-82-451-1	10.47"	6.5-2-329	30°	907082-3
20.75"	14.00"	6.5-2-329	6.5-3-1431KX	23°	6.5-82-451-5	11.47"	6.5-2-329	30°	907082-1

M = 3"-16 Spline **L** = 4.50" **S** = 3.38" Dust Cap 6.5-86-38

21.81"	15.06"	6.5-2-329	6.5-3-1351KX	30°	6.5-82-461-2	11.71"	6.5-2-329	30°	905739-2
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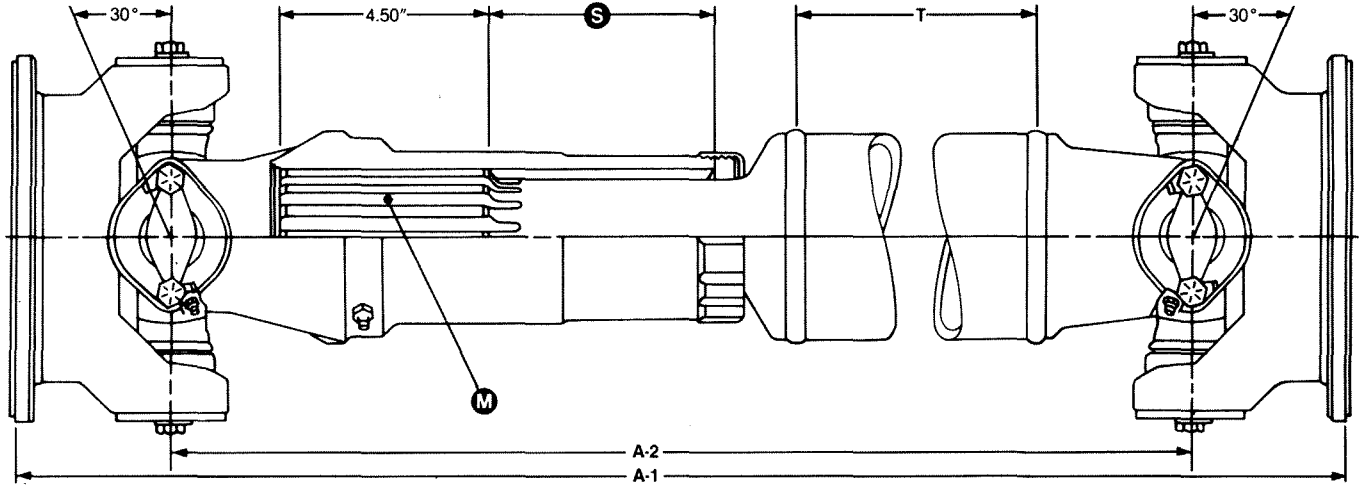
M = 3"-16 Spline **L** = 4.50" **S** = 5" Dust Cap 6.5-86-38

—	16.19"	S.S.	6.5-3-1371KX	30°	6.5-82-461-8	12.84"	S.S.	30°	908024-1
—	17.44"	S.S.	6.5-3-1371KX	30°	6.5-82-461-10	14.09"	S.S.	30°	908024-3
—	18.06"	S.S.	6.5-3-1371KX	30°	6.5-82-461-11	14.72"	S.S.	30°	908024-4
—	18.69"	S.S.	6.5-3-1371KX	30°	6.5-82-461-12	15.34"	S.S.	30°	908024-5
22.94"	16.19"	6.5-2-329	6.5-3-1371KX	30°	6.5-82-461-8	12.84"	6.5-2-329	30°	907242-2
24.18"	17.44"	6.5-2-329	6.5-3-1371KX	30°	6.5-82-461-10	14.09"	6.5-2-329	30°	907242-4
24.81"	18.06"	6.5-2-329	6.5-3-1371KX	30°	6.5-82-461-11	14.72"	6.5-2-329	30°	907242-5
25.44"	18.69"	6.5-2-329	6.5-3-1371KX	30°	6.5-82-461-12	15.34"	6.5-2-329	30°	907242-1

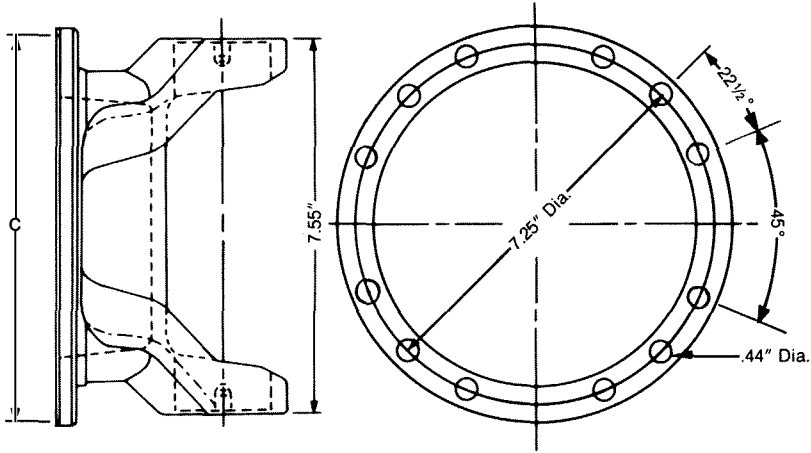
Series 1810

Tube Type Assembly

Intermediate and Long Slip



Flange Yoke



Flange Yoke Part Number	C Male Pilot Diameter
6.5-2-329	7.75"
6.5-2-349	6.44"
6.5-2-359	7.75"

Standard Parts

U-Joint Kit

Dust Cap

Tube Size

Tube Part Number

Approximate Weight

4.50" x .134" Welded } (except
 36-30-62- } where
 Footnoted)
 99 lbs.
 plus 6 lbs. per
 foot of tubing

Tube Type Assembly

**Series
1810**

Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 3"-16 Spline **S** = 3.38"

Tubing Formula: T = A-2 (Collapsed) minus 15.219" Minimum T = 2.78"

—	18.00"	S.S.	6.5-3-1351KX	6.5-40-201	6.5-28-117	S.S.	905458
21.38" (3)	18.00"	6.5-2-329	6.5-3-1351KX	6.5-40-201	6.5-28-117	S.S.	907552
21.38" (3)	18.00"	S.S.	6.5-3-1351KX	6.5-40-201	6.5-28-117	6.5-2-329	907418
21.31" (3)	18.00"	6.5-2-349 (1)	6.5-3-1351KX	6.5-40-201	6.5-28-117	S.S.	909078

Tubing Formula: T = A-1 (Collapsed) minus 21.97" Minimum T = 2.78"

24.75"	18.00"	6.5-2-329	6.5-3-1351KX	6.5-40-201	6.5-28-117	6.5-2-329	905744
24.75"	18.00"	6.5-2-329	6.5-3-1351KX	6.5-40-201	6.5-28-117	6.5-2-329	907767 (2)

Tubing Formula: T = A-2 (Collapsed) minus 15.66" Minimum T = 2.78"

—	18.44"	S.S.	6.5-3-1351KX	8-40-91	6.5-28-127	S.S.	907838 (4)
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Tubing Formula: T = A-1 (Collapsed) minus 22.41" Minimum T = 2.78"

25.19"	18.44"	6.5-2-329	6.5-3-1351KX	8-40-91	6.5-28-127	6.5-2-329	908392 (4)
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M = 3"-16 Spline **S** = 5"

Tubing Formula: T = A-2 (Collapsed) minus 17" Minimum T = 2.75"

—	19.75"	S.S.	6.5-3-1371KX	6.5-40-191	6.5-28-117	S.S.	905116
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Tubing Formula: T = A-1 (Collapsed) minus 23.75" Minimum T = 2.75"

26.50"	19.75"	6.5-2-329	6.5-3-1371KX	6.5-40-191	6.5-28-117	6.5-2-329	906323
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Tubing Formula: T = A-2 (Collapsed) minus 17.28" Minimum T = 2.78"

—	20.06"	S.S.	6.5-3-1371KX	8-40-101	6.5-28-127	S.S.	907465 (2)(4)
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(1) For Bendix brake.

(2) Unwelded at Tube Shaft.

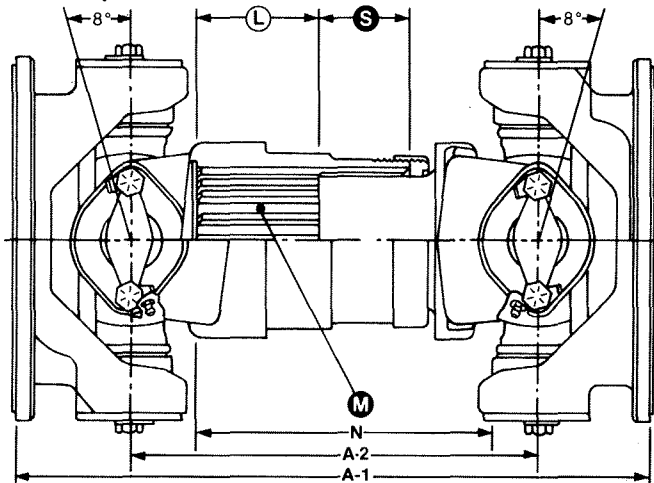
(3) Dimension is from Flange Face to center of cross on opposite end.

(4) Assembly with 4.50" x .259" Welded tube size. Tube Part Number 36-30-22.

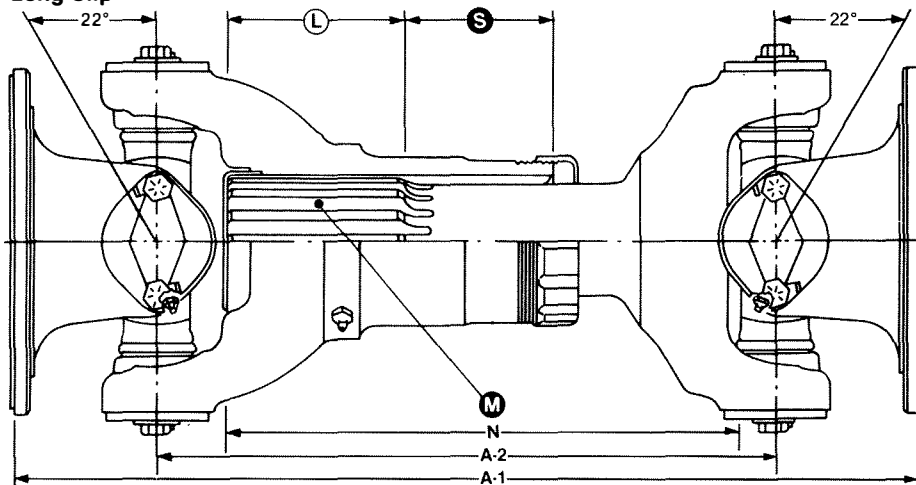
Series 1880

Short Coupled Assembly

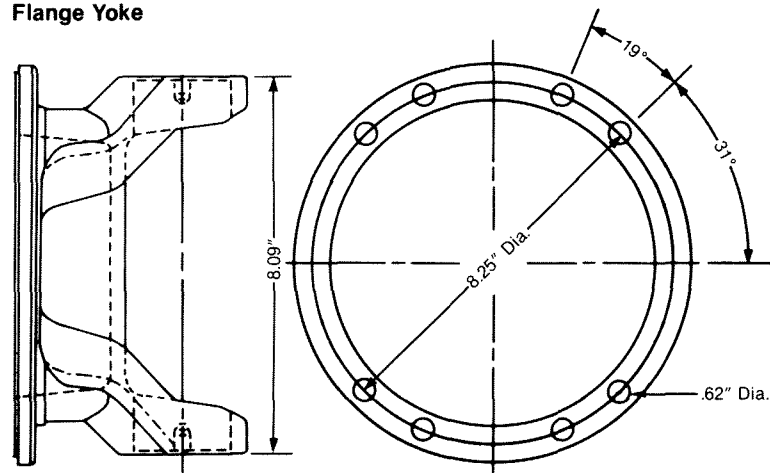
Short Slip



Long Slip



Flange Yoke



Standard Parts
U-Joint Kit
Approximate Weight

5-308X
142 lbs.

Short Coupled Assembly

Series 1880

Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	

M = 4.17"-24 Involute Spline **L** = 2.625" **S** = 1" Dust Cap Kit **D9A**

13.625"	8.625"	8-2-119	8-3-431KX	8-82-171-1	6.125"	8-2-119	906550-1
14.625"	8.625"	8-2-109	8-3-431KX	8-82-171-1	6.125"	8-2-119	906550-3
15.625"	8.625"	8-2-109	8-3-431KX	8-82-171-1	6.125"	8-2-109	906550-5

Glidecote® Spline Assemblies

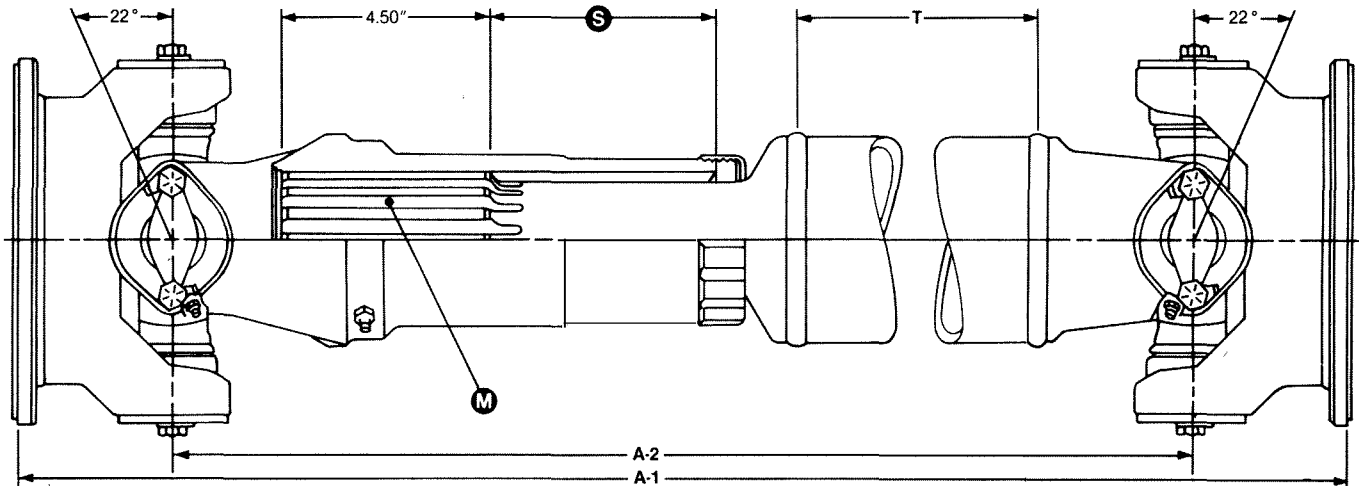
M = 3"-16 Spline **L** = 4.50" **S** = 3.50" Dust Cap **6.5-86-38**

—	14.875"	S.S.	8-3-391KX	8-82-161-1	11.750"	S.S.	909051-1
—	15.875"	S.S.	8-3-391KX	8-82-161-3	12.750"	S.S.	909051-3
—	16.875"	S.S.	8-3-391KX	8-82-161-6	13.750"	S.S.	909051-5
—	17.375"	S.S.	8-3-391KX	8-82-161-7	14.250"	S.S.	909051-6
21.88"	14.875"	8-2-109	8-3-391KX	8-82-161-1	11.750"	8-2-109	908942-1
22.88"	15.875"	8-2-109	8-3-391KX	8-82-161-3	12.750"	8-2-109	908942-3
23.88"	16.875"	8-2-109	8-3-391KX	8-82-161-6	13.750"	8-2-109	908942-5
24.38"	17.375"	8-2-109	8-3-391KX	8-82-161-7	14.250"	8-2-109	908942-6

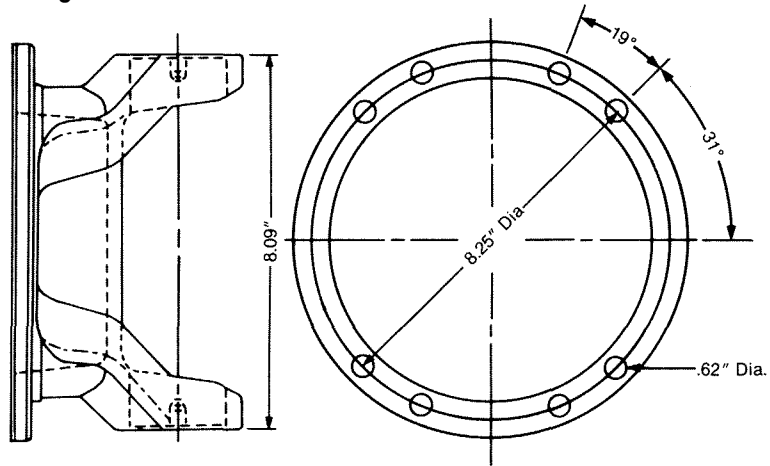
Series 1880

Tube Type Assembly

Intermediate and Long Slip



Flange Yoke



Standard Parts

U-Joint Kit 5-308X
 Dust Cap 6.5-86-38
 Tube Size 4.50" x .259" Welded
 Tube Part Number 36-30-22-
 Approximate Weight 152 lbs.
 plus 12 lbs. per
 foot of tubing

Tube Type Assembly

**Series
1880**

Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 3"-16 Spline **S** = 3.50"

Tubing Formula: T = A-2 (Collapsed) minus 15.94" Minimum T = 2.75"

—	18.69"	S.S.	8-3-391KX	8-40-91	8-28-147	S.S.	908672
—	18.69"	S.S.	8-3-391KX	8-40-91	8-28-147	S.S.	908610 (1)

Tubing Formula: T = A-1 (Collapsed) minus 22.94" Minimum T = 2.75"

25.69"	18.69"	8-2-109	8-3-391KX	8-40-91	8-28-147	8-2-109	905869
25.69"	18.69"	8-2-109	8-3-391KX	8-40-91	8-28-147	8-2-109	909231 (1)

M = 3"-16 Spline **S** = 5.125"

Tubing Formula: T = A-2 (Collapsed) minus 17.56" Minimum T = 2.75"

—	20.31"	S.S.	8-3-411KX	8-40-101	8-28-147	S.S.	908296
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Tubing Formula: T = A-1 (Collapsed) minus 24.562" Minimum T = 2.75"

27.31"	20.31"	8-2-109	8-3-411KX	8-40-101	8-28-147	8-2-109	905882
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(1) Unwelded at Tube Shaft.

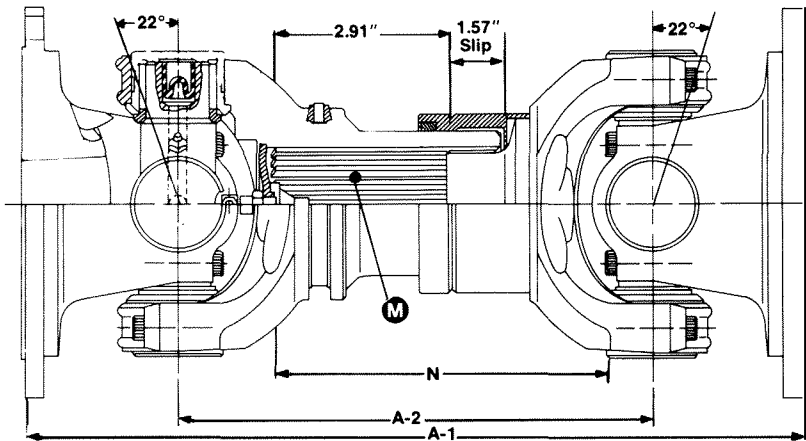
Series 1910

Short Coupled Assembly

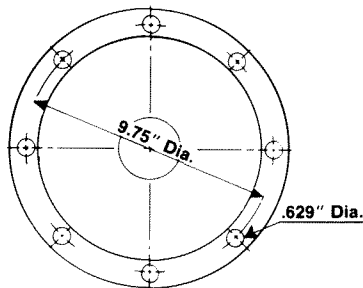
Standard Parts
U-Joint Kit
Approximate Weight

5-316X
195 lbs.

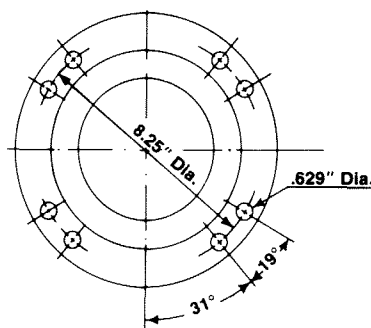
Short Slip



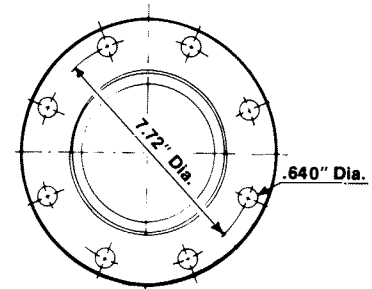
Flange Yokes



1900 Bolt Clearance Layout
Flange Yoke 9-2-269X



1910 Bolt Clearance Layout
Flange Yoke 9-2-219X



For GWB 190.50 Bolt Circle
Flange Yoke 9-2-99X

Minimum Length Collapsed		Slip Joint End		Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke (Includes Cap & Bolt)	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline		Flange Yoke (Includes Cap & Bolt)

M = 3.15"-36 Involute Spline

21.654"	13.15"	9-2-269X	9-3-481KX	9-82-271X	9.18"	9-2-269X	911631-1 (1)
24.60"	16.10"	9-2-269X	9-3-481-1KX	9-82-271X	9.18"	9-2-269X	911631-2 (1)
21.654"	13.15"	9-2-99X	9-3-481KX	9-82-271X	9.18"	9-2-99X	911632-1 (2)
24.60"	16.10"	9-2-99X	9-3-481-1KX	9-82-271X	9.18"	9-2-99X	911632-2 (2)
21.654"	13.15"	9-2-219X	9-3-481KX	9-82-271X	9.18"	9-2-219X	911633-1
24.60"	16.10"	9-2-219X	9-3-481-1KX	9-82-271X	9.18"	9-2-219X	911633-2

(1) 1900 to 1910 Series conversion flange.
(2) GWB 190.50" flange bolt circle and 15° working angles.

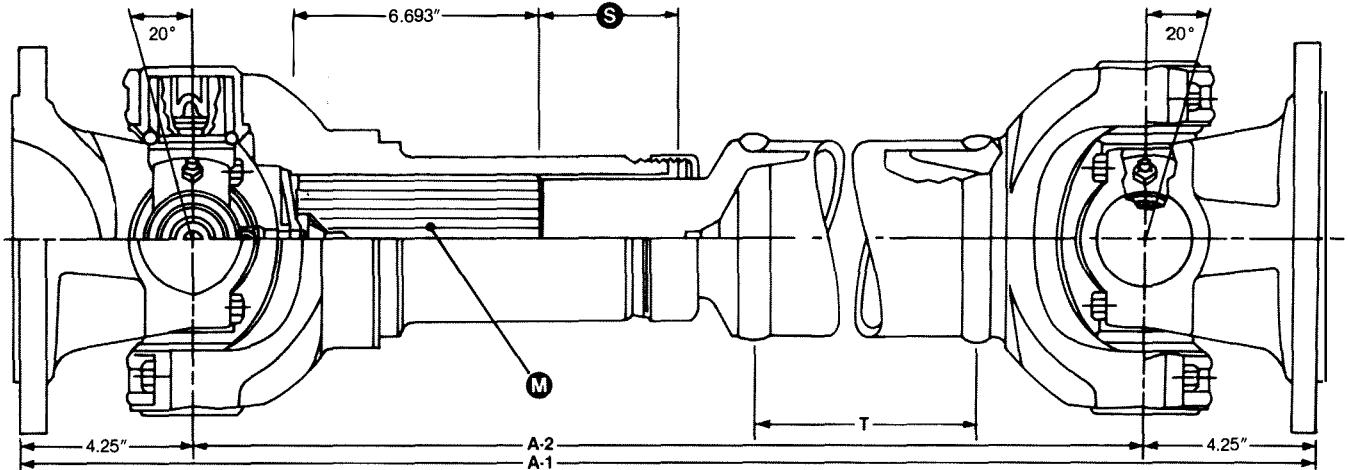
Standard Parts

U-Joint Kit **5-316X**
 Dust Cap Kit **D9B**
 Tube Size 4.75" x .250" Welded
 Tube Part Number 38-30-12-
 Approximate Weight 166 lbs.
 plus 12 lbs. per
 foot of tubing

Tube Type Assembly

**Series
1910**

Intermediate and Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke (Includes Cap & Bolt)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke (Includes Cap & Bolt)	

Glidecote® Spline Assemblies

M = 3.163"-36 Involute Spline **S** = 2.95"

Tubing Formula: T = A-1 (Collapsed) minus 26.83" Minimum T = 3.562"

30.38"	21.88"	9-2-219X	N.S.S.	N.S.S.	9-28-37X	9-2-219X	908642
30.38"	21.88"	9-2-219X	N.S.S.	N.S.S.	9-28-37X	9-2-219X	909519 (1)
30.38"	21.88"	9-2-99X	N.S.S.	N.S.S.	9-28-37X	9-2-99X	907470 (2)
30.38"	21.88"	9-2-269X	N.S.S.	N.S.S.	9-28-37X	9-2-269X	911643 (3)

M = 3.163"-36 Involute Spline **S** = 5"

Tubing Formula: T = A-1 (Collapsed) minus 28.88" Minimum T = 3.550"

32.43"	23.93"	9-2-219X	N.S.S.	N.S.S.	9-28-37X	9-2-219X	910671
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N.S.S.—Not Sold Separately

- (1) Unwelded at Tube Yoke
- (2) GWB 190.50° Flange Bolt Circle and 15° working angles.
- (3) 1900 to 1910 series conversion flange.

Series 1950

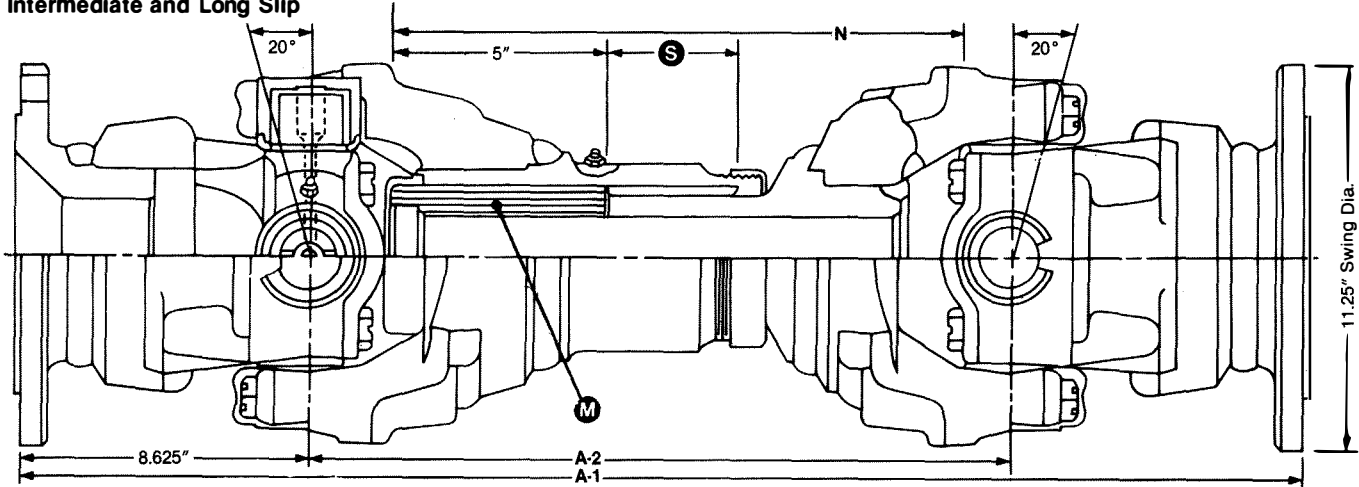
Short Coupled Assembly

Standard Parts

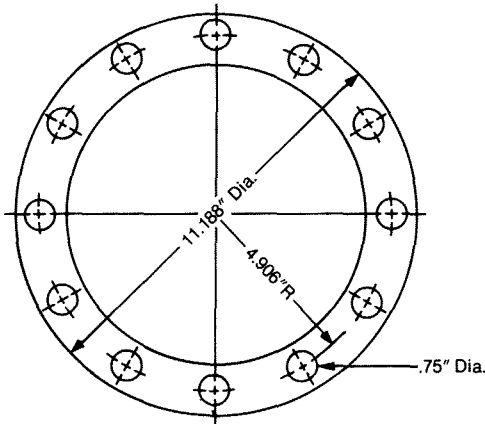
U-Joint Kit
Cap & Bolt Kit
Dust Cap Kit
Approximate Weight

5-339X
9-70-18X (1)
D9A
390 lbs.

Intermediate and Long Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke or S.S. (Shipping Strap)	

M = 4.167"-24 Involute Spline **S** = 3.50"

—	18.562"	S.S.	9-3-241KX	9-82-201X	14.656"	S.S.	909299-1
35.812"	18.562"	9-2-59X	9-3-241KX	9-82-201X	14.656"	9-2-59X	909300-1

M = 4.167"-24 Involute Spline **S** = 2.312"

33.938"	16.688"	9-2-59X	9-3-261KX	9-82-241X	12.781"	9-2-59X	905296-1
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(1) Includes 9-70-39 and 12-73-144.

Standard Parts
U-Joint Kit

Cap & Bolt Kit

Dust Cap Kit

Tube Size

Tube Part Number

Approximate Weight

5-339X

9-70-18X (1)

D9A

6" x .500" Welded } (except where footnoted)

48-32-12-

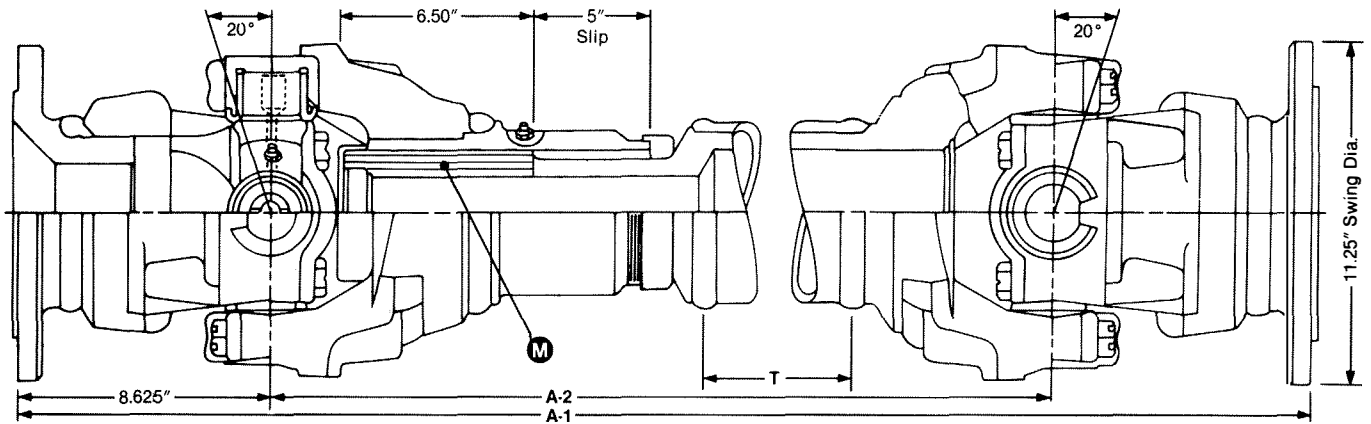
385 lbs.

plus 29.5 lbs. per foot of 6" tubing
or 20 lbs. per foot of 5 1/4" tubing.

Tube Type Assembly

**Series
1950**

Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke or S.S. (Shipping Strap)	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke or S.S. (Shipping Strap)	

Glidecote® Spline Assemblies

M = 4.167" - 24 Involute Spline

tubing Formula: T = A-2 (Collapsed) minus 22.344" Minimum T = 4.406"

— 26.75" S.S. 9-3-221KX 9-42-311 9-26-38X S.S. 906210 (2)

tubing Formula: T = A-1 (Collapsed) minus 39.594" Minimum T = 4.406"

44.00" 26.75" 9-2-59X 9-3-221KX 9-42-311 9-26-38X 9-2-59X 907088 (2)

tubing Formula: T = A-1 (Collapsed) minus 39.625" Minimum T = 4.438"

44.062" 26.82" 9-2-59X 9-3-221KX 9-42-421 9-26-18X 9-2-59X 906797

tubing Formula: T = A-2 (Collapsed) minus 22.375" Minimum T = 4.438"

— 26.82" S.S. 9-3-221KX 9-42-421 9-26-18X S.S. 910004

(1) Includes 9-70-39 and 12-73-144.

(2) Assembly with 5.25" x .375" Welded Tube Size. Tube Part Number 42-30-12-.

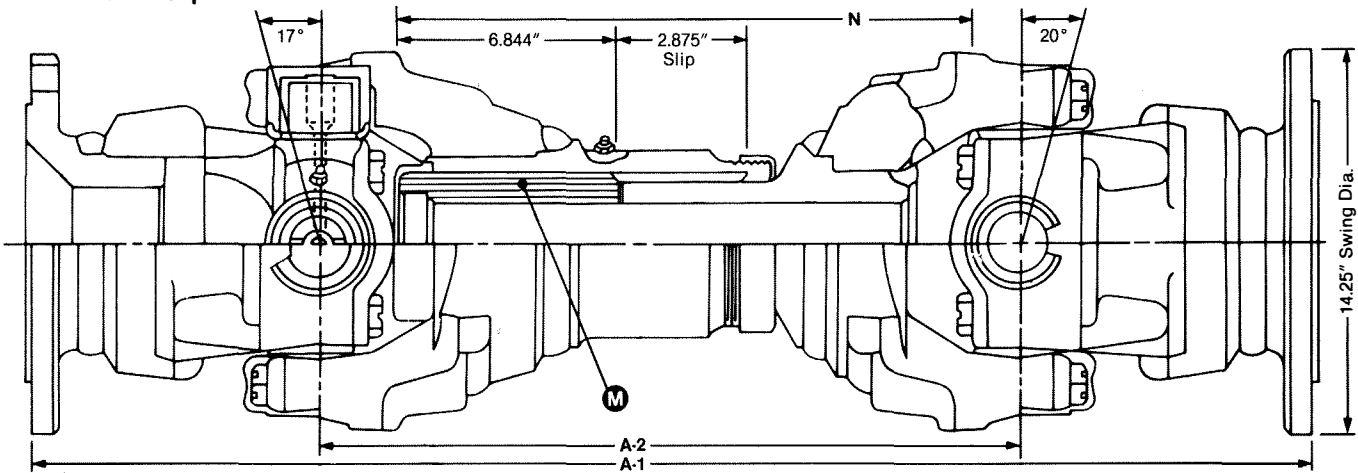
Series 2050

Short Coupled Assembly

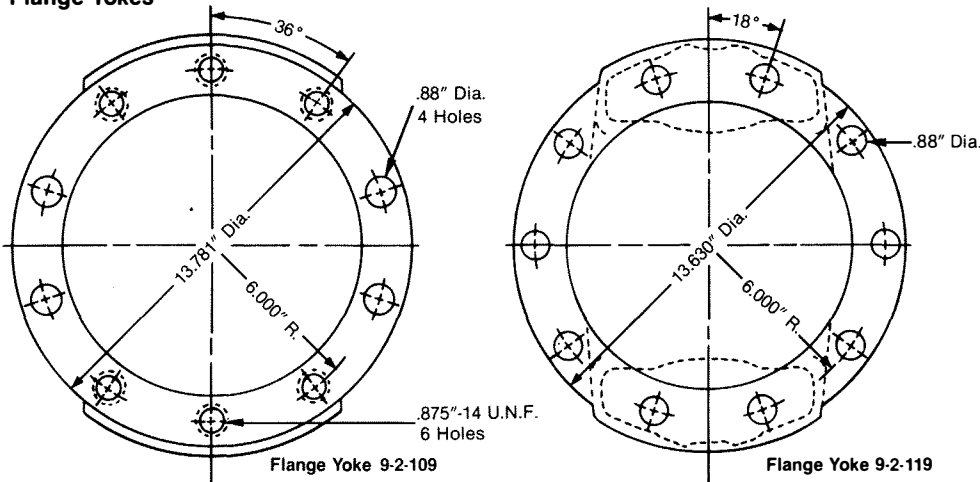
Standard Parts
 U-Joint Kit
 Cap & Bolt Kit
 Dust Cap Kit
 Approximate Weight

5-340X
 9-70-28X (1)
 D11A
 840 lbs.

Intermediate Slip



Flange Yokes



Minimum Length Collapsed		Slip Joint End		Tight Joint End			Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline	Flange Yoke	
33.750"	20.375"	9-2-109	9-3-331-2KX	9-82-141-1X	15.406"	9-2-109	905537-1
39.375"	20.375"	9-2-119	9-3-331-2KX	9-82-141-1X	15.406"	9-2-119	909020-1

M = 5.835" - 34 Involute Spline

33.750"	20.375"	9-2-109	9-3-331-2KX	9-82-141-1X	15.406"	9-2-109	905537-1
39.375"	20.375"	9-2-119	9-3-331-2KX	9-82-141-1X	15.406"	9-2-119	909020-1

(1) Includes 9-70-49 and 16-73-156.

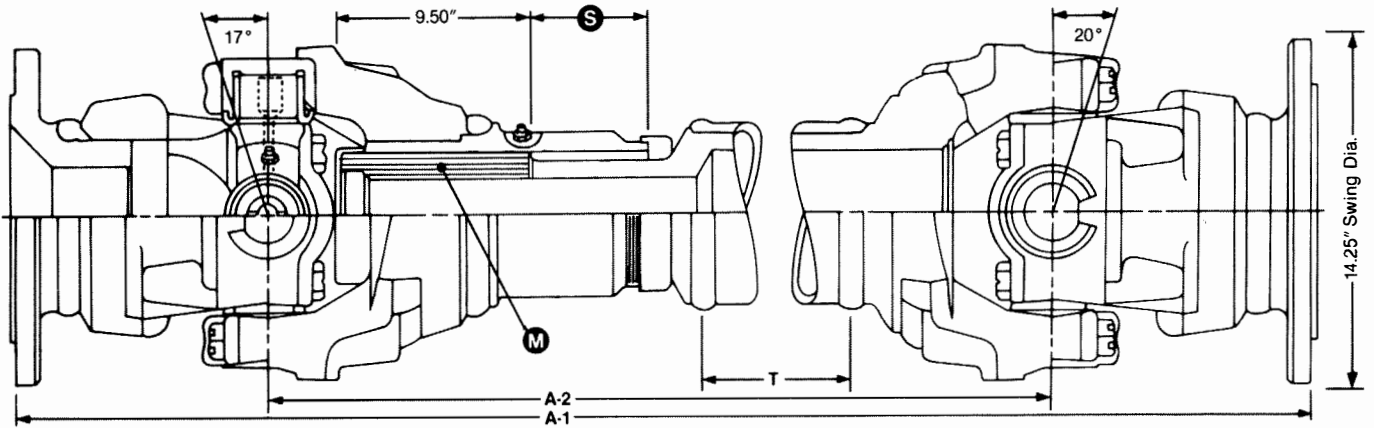
Standard Parts
 U-Joint Kit
 Cap & Bolt Kit
 Dust Cap Kit
 Tube Size
 Tube Part Number
 Approximate Weight

5-340X
 9-70-28X (1)
 D11A
 8" x .375" Welded
 64-32-12-
 835 lbs.
 plus 30.5 lbs. per
 foot of tubing

Tube Type Assembly

Series 2050

Intermediate and Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke	

M = 5.835" - 34 Involute Spline **S** = 2.875"

Tubing Formula: T = A-1 (Collapsed) minus 39.031" Minimum T = 6.22"

45.25"	31.88"	9-2-109	9-3-331-1KX	9-42-281	9-26-197	9-2-109	905476
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Tubing Formula: T = A-1 (Collapsed) minus 44.66" Minimum T = 6.22"

50.88"	31.88"	9-2-119	9-3-331-1KX	9-42-281	9-26-197	9-2-119	906952
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M = 5.835"-34 Involute Spline **S** = 5"

Tubing Formula: T = A-1 (Collapsed) minus 46.75" Minimum T = 6.22"

52.97"	33.99"	9-2-119	9-3-331-4KX	9-42-351	9-26-197	9-2-119	910573
52.97"	33.99"	9-2-119	9-3-331-4KX	9-42-351	9-26-197	9-2-119	912109 (2)

Tubing Formula: T = A-1 (Collapsed) minus 41.12" Minimum T = 6.22"

44.345"	33.99"	9-2-109	9-3-331-4KX	9-42-351	9-26-197	9-2-109	912223
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(1) Includes 9-70-49 and 16-73-156.
 (2) Unwelded at Tube Shaft.

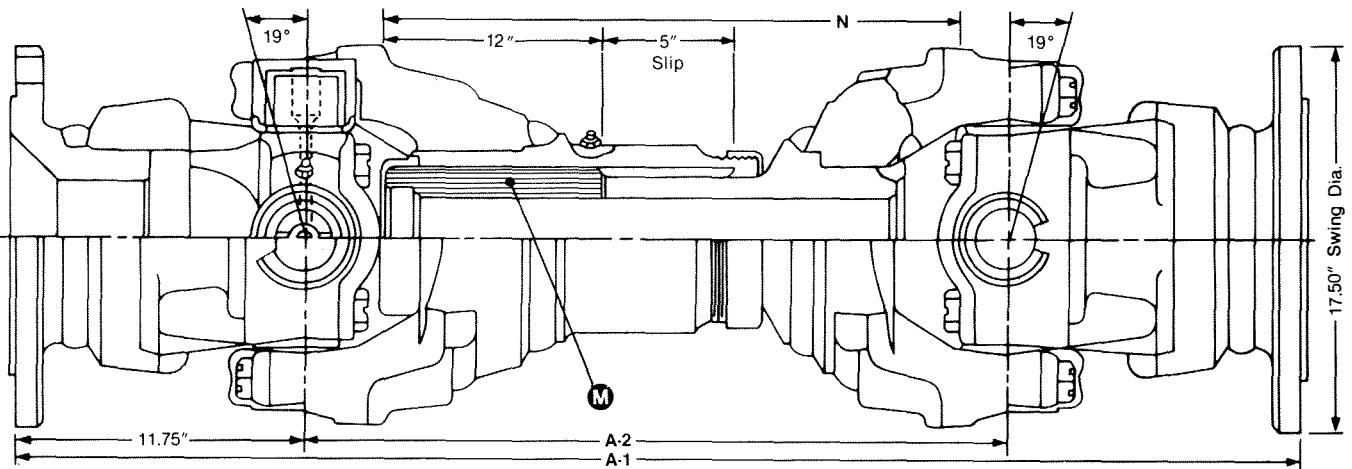
Series 2150

Short Coupled Assembly

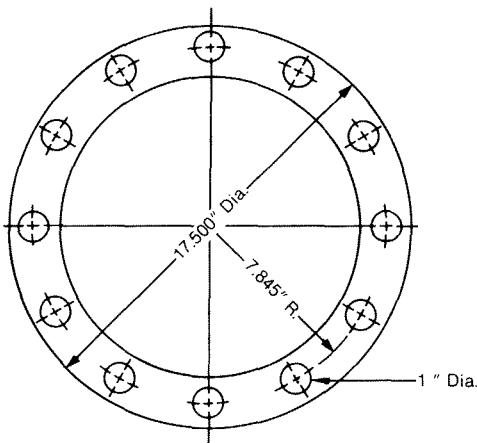
Standard Parts
 U-Joint Kit
 Cap & Bolt Kit
 Dust Cap Kit
 Approximate Weight

5-298X
 9-70-38X (1)
 D11A
 1465 lbs.

Long Slip



Flange Yoke



Minimum Length Collapsed		Slip Joint End		Tight Joint End		Assembly Part Number	
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Yoke Shaft	N Bottom of Cross Hole to End of Spline		Flange Yoke
56.940"	33.440"	9-2-129	9-3-351-1KX	9-82-181-1X	27.125"	9-2-129	907056-1

M = 5.835" - 34 Involute Spline

56.940" 33.440" 9-2-129 9-3-351-1KX 9-82-181-1X 27.125" 9-2-129 907056-1

(1) Includes 9-70-59 and 16-73-156.

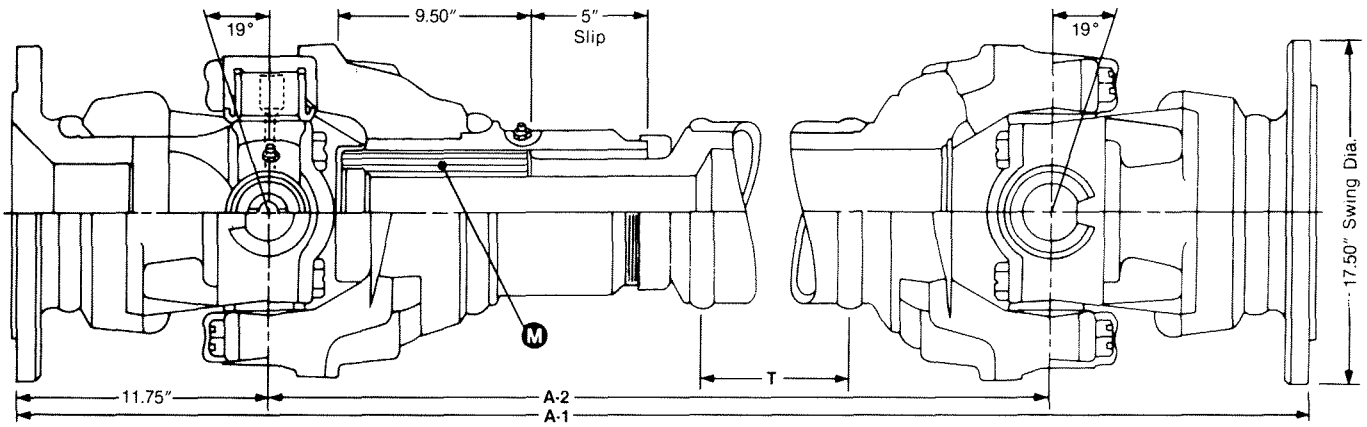
Standard Parts

U-Joint Kit 5-298X
 Cap & Bolt Kit 9-70-38X (1)
 Dust Cap Kit D11A
 Tube Size 9" x .625" Welded
 Tube Part Number 72-32-12-
 Approximate Weight 1460 lbs.
 plus 56 lbs. per
 foot of tubing

Tube Type Assembly

**Series
2150**

Long Slip



Minimum Length Collapsed		Slip Joint End			Tight Joint End		Assembly Part Number
A-1 Flange Face to Flange Face	A-2 Centerline to Centerline	Flange Yoke	Slip Yoke Assembly (Includes Dust Cap Kit)	Tube Shaft	Tube Yoke	Flange Yoke	
61.44"	37.94"	9-2-129	9-3-351-1KX	9-42-301	9-26-227	9-2-129	906004

M = 5.835" - 34 Involute Spline

Tubeing Formula: T = A-1 (Collapsed) minus 56.312" Minimum T = 5.125"

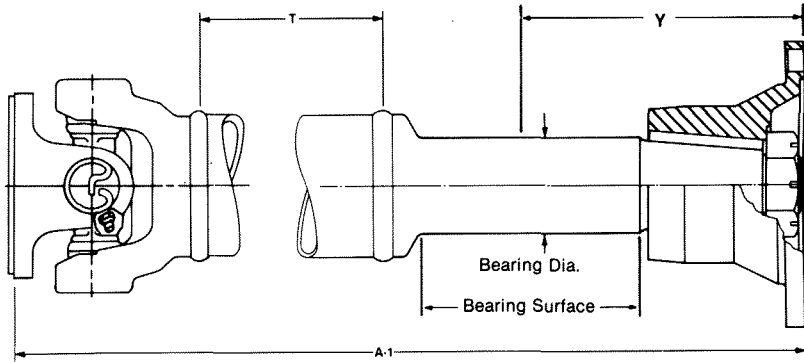
61.44"	37.94"	9-2-129	9-3-351-1KX	9-42-301	9-26-227	9-2-129	906004
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(1) Includes 9-70-59 and 16-73-156.

Series 1310-2150

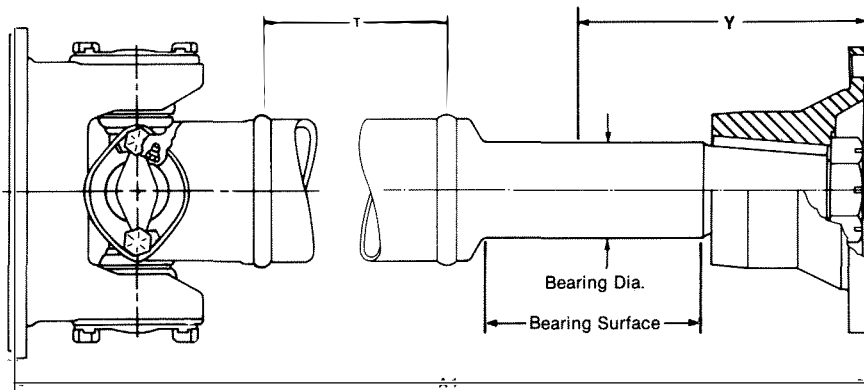
Single Joint Assembly

1310, 1350, 1410, 1480, 1550 Series

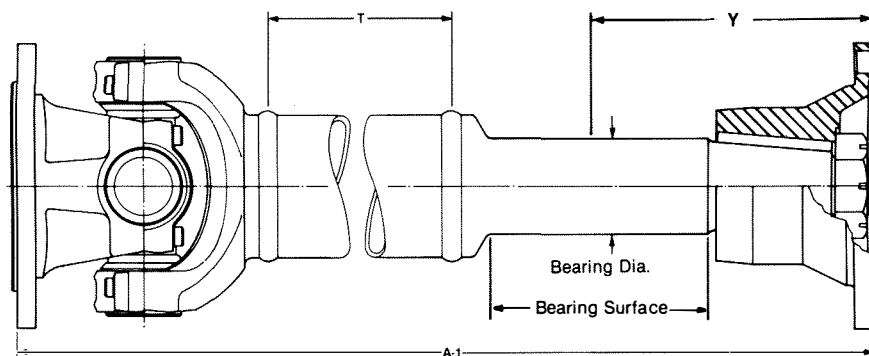


Series	Y Center of Bearing Surface to Companion Flange Face	Length of Bearing Surface
1310	4.92"	5.41"
1350	4.92"	5.41"
1410	5.88"	6.25"
1480	6.74"	8"
1550	7.12"	8"
1610	7.10"	8"
1710	7.88"	8"
1810	7.02"	5.41"
1880	8.53"	7.31"
1910	9.04"	7.31"
1950	9.42"	8.06"
2050	12.95"	11.75"
2150	18.625"	17.75"

1610, 1710, 1810, 1880 Series



1910, 1950, 2050, 2150 Series



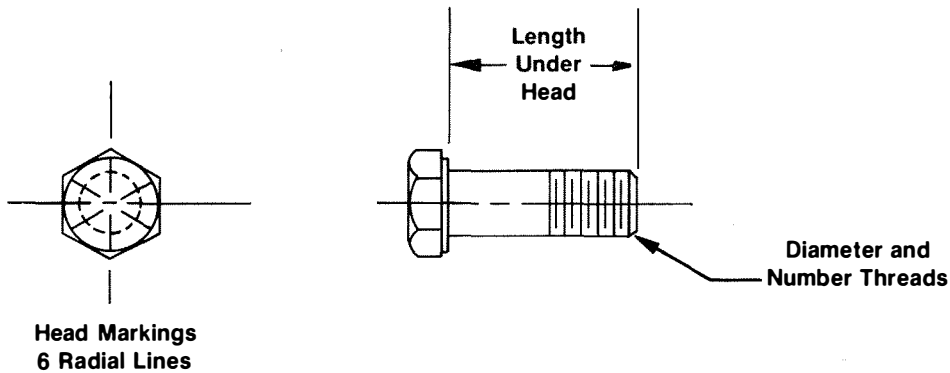
Single Joint Assembly

Series 1310 - 2150

Series	A-1 Flange Face to Flange Face (Min. Length)	U-Joint Kit	Flange Yoke	Tube Yoke	Tube Part Number	Midship Tube Shaft (Tapered Hole)	Key	Companion Flange (Tapered Hole)	Assembly Part Number
Tubing Formula: T = A-1 minus 11.50" Bearing Diameter (max./min.) 1.187"/1.186"									
1310	12.81"	5-153X	2-2-329	2-28-367	20-30-22-	2-53-124	3.5-20-19	2-1-574	910954
Tubing Formula: T = A-1 minus 11.78" Bearing Diameter (max./min.) 1.187"/1.186"									
1350	13.12"	5-178X	3-2-119	3-28-47	20-30-22-	2-53-124	3.5-20-19	3-1-724	910955
Tubing Formula: T = A-1 minus 13.37" Bearing Diameter (max./min.) 1.439"/1.435"									
1410	15.22"	5-160X	3-2-159	3-28-97	24-30-42-	3-53-174	4-20-19	3-1-594	200698
Tubing Formula: T = A-1 minus 14.84" Bearing Diameter (max./min.) 1.687"/1.685"									
1480	16.75"	5-188X	3-2-479	3-28-537	28-30-62-	3-53-214	4-20-19	4-1-2324	910956
Tubing Formula: T = A-1 minus 15.76" Bearing Diameter (max./min.) 1.937"/1.935"									
1550	17.56"	5-155X	4-2-669	4-28-307	28-30-22-	4-53-264	6-20-19	4-1-1964	910957
Tubing Formula: T = A-1 minus 17.38" Bearing Diameter (max./min.) 1.937"/1.935"									
1610	19.62"	5-279X	5-2-279	5-28-627	28-30-92-	5-53-304	6-20-19	5-1-1154	910958
Tubing Formula: T = A-1 minus 18.41" Bearing Diameter (max./min.) 2.187"/2.185"									
1710	20.75"	5-280X	6-2-749	6-28-347	32-30-52-	6-53-134	6-20-49	6-1-1144	910934
Tubing Formula: T = A-1 minus 17.62" Bearing Diameter (max./min.) 2.4375"/2.4345"									
1810	20.38"	5-281X	6.5-2-329	6.5-28-117	36-30-62-	6.5-53-24	10-135	6.5-1-64	908579
Tubing Formula: T = A-1 minus 21" Bearing Diameter (max./min.) 2.937"/2.935"									
1880	23.75"	5-308X	8-2-109	8-28-147	36-30-22-	8-53-14	231240	8-1-74	908578
Tubing Formula: T = A-1 minus 22.50" Bearing Diameter (max./min.) 3.187"/3.185"									
1910	26.062"	5-316X	9-2-219X (1)	9-28-37X (1)	38-30-12-	9-54-54	231187	9-1-54	909144
Tubing Formula: T = A-1 minus 30.02" Bearing Diameter (max./min.) 3.437"/3.435"									
1950	34.50"	5-339X	9-2-59X	9-26-38X	42-30-12-	9-54-44	231187	9-1-44	908985
Tubing Formula: T = A-1 minus 37.61" Bearing Diameter (max./min.) 4.437"/4.435"									
2050	43.84"	5-340X	9-2-119	9-26-197	64-32-12-	9-54-64	231189	9-1-64	909254
Tubing Formula: T = A-1 minus 48.16" Bearing Diameter (max./min.) 6.499"/6.497"									
2150	50.97"	5-298X	9-2-129	9-26-227	72-32-12-	9-54-74	231181	9-1-74	909338

(1) Includes cap & bolt.

Flange Bolts



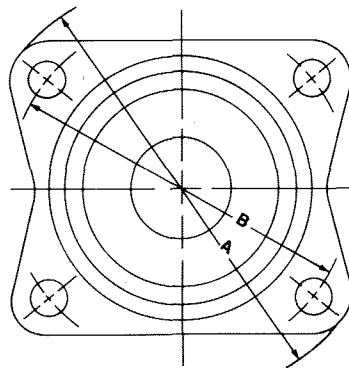
Note: Spicer Flange Bolts are **Special Heat Treated Grade 8 Bolts.**
Do not substitute inferior grade bolts.

Series	Diameter, Thread, and Length Under Head	Nut	Washer	Flange Bolt	Torque Data
1000/1100	5/16" -24 x 7/8"	231421-2	500357-10	5-73-414	22-26 Lb. Ft.
1350/1410/1550	24 x 1"	231421-2	500357-10	5-73-2216	22-26 Lb. Ft.
1550*	24 x 1-9/16"	231421-2	500357-10	5-73-1125	22-26 Lb. Ft.
1280-1310	3/8" -24 x 1"	231421-3	500357-11	6-73-316	40-48 Lb. Ft.
1610	24 x 1-3/16"	231421-3	500357-11	6-73-1219	40-48 Lb. Ft.
1710	24 x 1-1/4"	231421-3	500357-11	6-73-220	40-48 Lb. Ft.
1610*	24 x 1-9/16"	231421-3	500357-11	6-73-325	40-48 Lb. Ft.
1710*	24 x 1-11/16"	231421-3	500357-11	6-73-1227	40-48 Lb. Ft.
1350/1410	7/16" -20 x 1-3/16"	231421-4	500357-12	7-73-219	63-75 Lb. Ft.
1800	20 x 1-3/8"	231421-4	500357-12	7-73-122	63-75 Lb. Ft.
1350/1410*	20 x 1-5/8"	231421-4	500357-12	7-73-126	63-75 Lb. Ft.
1810*	20 x 1-3/4"	231421-4	500357-12	7-73-228	63-75 Lb. Ft.
1480-1550	1/2" -20 x 1-3/8"	231421-5	500357-13	8-73-122	97-116 Lb. Ft.
1650	20 x 1-7/16"	(Bearing Race Cap)		8-73-123	97-116 Lb. Ft.
1480/1550*	20 x 1-3/4"	231421-5	500357-13	8-73-228	97-116 Lb. Ft.
1880/1910	5/8" -18 x 1-15/16"	231421-7	500358-15	10-73-131	194-232 Lb. Ft.
1950	3/4" -16 x 2-1/2"	231421-8	500358-17	12-73-140	341-409 Lb. Ft.
2050	7/8" - 9 x 3-1/2"	231421-9	500358-19	14-73-264	543-652 Lb. Ft.
2150	1" -12 x 4"	231421-10	500358-21	16-73-164	810-976 Lb. Ft.

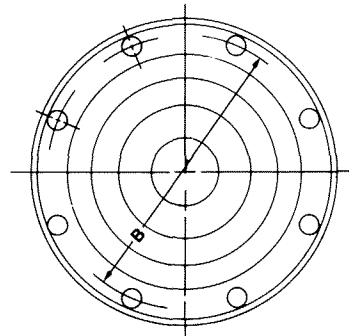
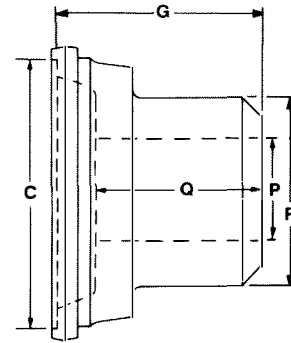
*-Tru Stop Brake Applications

Companion Flanges

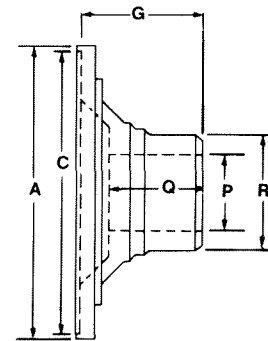
With Semi-Finished Round Hole



Rectangular (1280 thru 1550 Series)



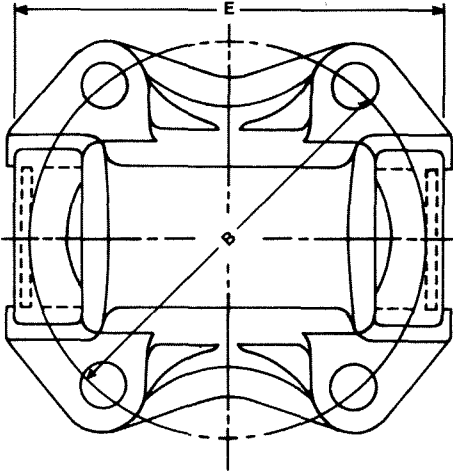
Circular (1610 thru 2150 Series)



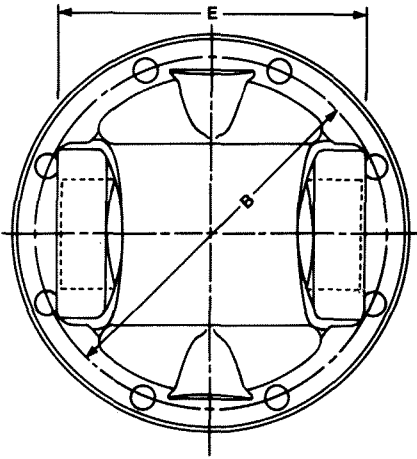
Series	A	B— Bolt Holes			P	C	R	Q	G	Companion Flange
	Swing Diameter	Circle Diameter	Bolt Hole Diameter	Number of Bolt Holes	Round Hole Diameter	Female Pilot Diameter	Hub Diameter	Length Thru Hole	Flange Face to End of Hub	Part Number
1280/1310	3.87"	3.12"	.38"	4	.75"	2.38"	2.12"	1.50"	2.50"	2-1-663
1350/1410	4.62"	3.75"	.44"	4	1"	2.75"	2.81"	2.62"	3.44"	3-1-303 (1)
1480/1550	5.87"	4.75"	.50"	4	1.25"	3.75"	3"	3.06"	3.62"	4-1-543
1610	6.87"	6.12"	.38"	8	1.25"	6.62"	2.87"	3.44"	3.81"	5-1-193
1710	8"	7.25"	.38"	8	1.25"	7.75"	3.62"	3.12"	3.69"	6-1-433
1810	8"	7.25"	.44"	12	1.25"	7.75"	5.94"	3.75"	3.75"	6.5-1-283
1880/1910	9.75"	8.25"	.62"	8	1.75"	7"	6.50"	4.84"	5"	9-1-173-1
1950	11.18"	9.81"	.75"	12	2.25"	8.25"	8"	5.50"	5.62"	9-1-143-1
2050	13.62"	12"	.88"	10	3.25"	10.38"	9"	7"	7.18"	9-1-153-5

(1) Circular type flange for rectangular flange yoke.

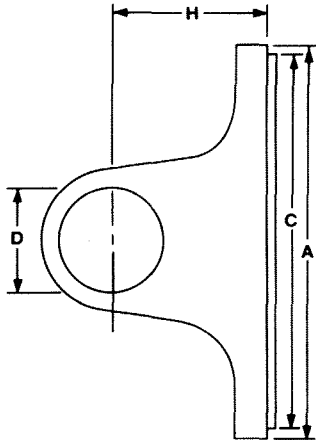
Flange Yokes



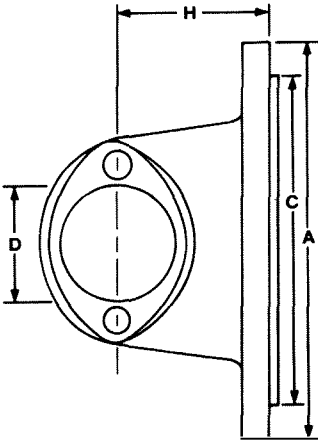
Rectangular
1280 thru 1550 Series



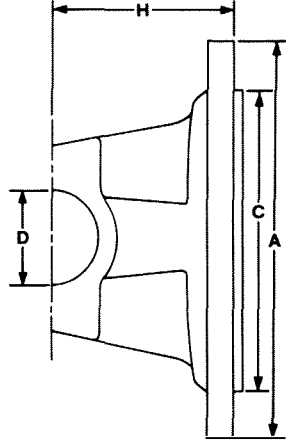
Circular
1550 thru 2150 Series



1280 thru 1550 Series



1610 thru 1880 Series



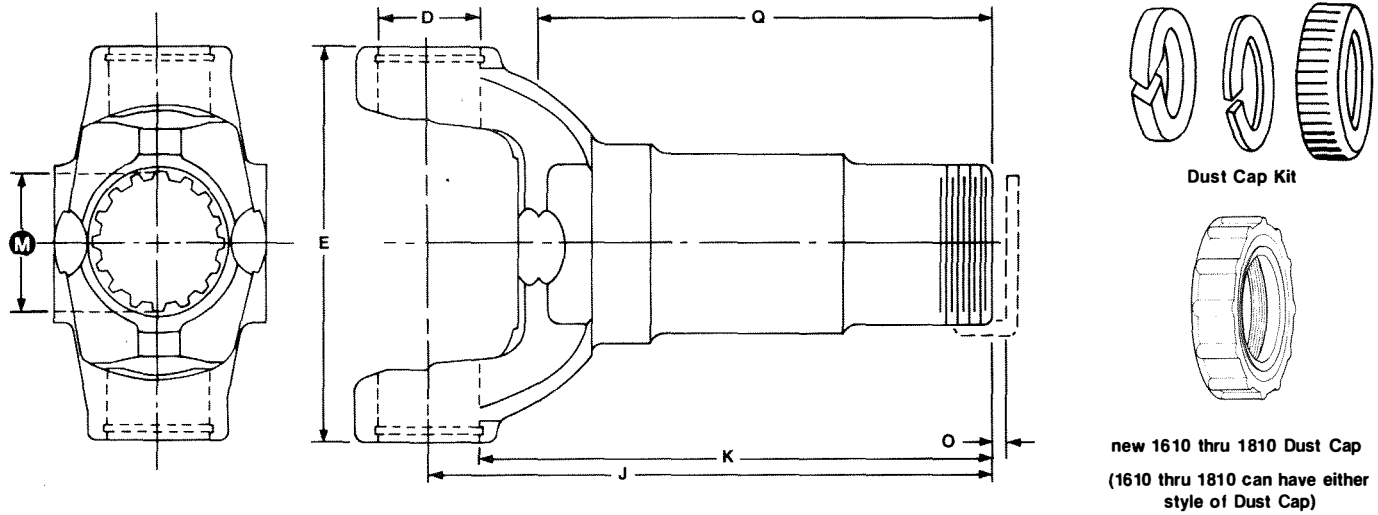
1910 thru 2150 Series

Flange Yokes

Series	U-Joint Kit	E	D	A	B— Bolt Holes			C	H	Joint Angle (5)	Flange Yoke
		Distance Across Lugs	Bearing Diameter	Flange Swing Diameter	Circle Diameter	Bolt Hole Diameter	Number of Bolt Hole	Pilot Diameter M—Male F—Female	Flange Face to Centerline		Part Number
1280/1310	5-153X	3.47"	1.06"	3.88"	3.12"	.38"	4	M-2.38"	1.38"	20°	2-2-329
1350	5-178X	3.88"	1.19"	4.62"	3.75"	.44"	4	M-2.75"	1.56"	20°	3-2-119
1410	5-160X	4.44"	1.19"	4.69"	3.75"	.44"	4	M-2.75"	1.69"	22°	3-2-159
1410	5-262X	4.44"	1.19"	5.88"	4.75"	.50"	4	M-3.75"	2.00"	30°	3-2-429
1480	5-188X	4.44"	1.38"	5.88"	4.75"	.50"	4	M-3.75"	2.00"	20°	3-2-479
1480	5-188X	4.44"	1.38"	5.88"	4.75"	.50"	4	M-3.75"	1.50"	8°	3-2-489
1550	5-155X	5.25"	1.38"	5.88"	4.75"	.50"	4	M-3.75"	2.00"	22°	4-2-669
1550	5-155X	5.25"	1.38"	5.88"	4.75"	.50"	4	M-3.75"	1.50"	8°	4-2-679
1550	5-155X	5.25"	1.38"	6.88"	6.12"	.38"	8	M-6.62"	2.00"	22°	4-2-689
1550	5-155X	5.25"	1.38"	6.88"	6.12"	.38"	8	M-5.31"	2.00"	—	4-2-699 (3)
1610	5-279X	5.31"	1.88"	6.88"	6.12"	.38"	8	{ M-6.62" F-5.31"(2) }	2.75"	22°	5-2-249 (1)
1610	5-279X	5.31"	1.88"	6.88"	6.12"	.38"	8	M-6.62"	2.75"	22°	5-2-279 (1)
1610	5-279X	5.31"	1.88"	6.88"	6.12"	.38"	8	M-6.62"	1.88"	8°	5-2-379
1710	5-280X	6.09"	1.94"	8.00"	7.25"	.38"	8	M-7.75"	3.00"	22°/29°	6-2-749
1710	5-280X	6.09"	1.94"	8.00"	7.25"	.38"	8	M-8.00"	3.00"	—	6-2-759 (4)
1710	5-280X	6.09"	1.94"	8.00"	7.25"	.38"	8	M-7.75"	2.00"	8°	6-2-769
1710	5-280X	6.09"	1.94"	8.00"	7.25"	.38"	8	M-6.44"	3.00"	—	6-2-789 (3)
1760	5-407X	7.00"	1.94"	8.00"	7.25"	.44"	12	M-7.75"	3.38"	30°	6-3-2-19
1810	5-281X	7.55"	1.94"	8.00"	7.25"	.44"	12	M-7.75"	3.38"	30°	6-5-2-329
1810	5-281X	7.55"	1.94"	8.00"	7.25"	.44"	12	M-6.44"	3.31"	30°	6-5-2-349 (3)
1810	5-281X	7.55"	1.94"	8.00"	7.25"	.44"	12	M-7.75"	2.59"	12°	6-5-2-359
1880	5-308X	8.09"	2.18"	9.75"	8.25"	.62"	8	M-7.00"	3.50"	22°	8-2-109
1880	5-308X	8.09"	2.18"	9.75"	8.25"	.62"	8	M-7.00"	2.50"	8°	8-2-119
1910	5-316X	—	2.560"	10.875"	9.75"	.629"	8	M-8.75"	4.25"	22°	9-2-269X
1910	5-316X	—	2.560"	8.858"	7.720"	.640"	8	F-5.512"	4.252"	20°	9-2-99X
1910	5-316X	—	2.560"	9.50"	8.250"	.629"	8	M-7.00"	4.250"	20°	9-2-219X
1950	5-339X	—	3.062"	11.188"	9.815"	.754"	12	M-8.250"	8.625"	20°	9-2-59X
2050	5-340X	—	3.813"	13.630"	12"	.885"	10	M-10.375"	6.688"	20°	9-2-109
2050	5-340X	—	3.813"	13.630"	12"	.885"	10	M-10.375"	9.500"	20°	9-2-119
2150	5-298X	—	4.750"	17.50"	15.692"	1.010"	12	M-13.690"	11.750"	20°	9-2-129

- (1) Bearing plate screw holes located on centerline of yoke.
(2) For AC tru-stop brake.
(3) For Bendix brake.
(4) Nut clearance.
(5) The angles shown are the maximum for momentary operation.
Example: 22°/29° 22° angle when mated with long lug yokes.
29° angle when mated with short lug yokes.

Slip Yoke Assemblies



Series	U-Joint Kit	E	D	M	J	K	Q	O	Joint Angle	Dust Cap or Kit	Slip Yoke Assembly Part Number
		Distance Across Lugs	Bearing Diameter	Spline Diameter & Number	Centerline to End of Spline	Bottom of Cross Hole to End of Spline	Length Thru Hole	End of Slip Yoke to Inside of Dust Cap			
1280/1310	5-153X	3.47"	1.06"	1.25"-16	4.12"	3.59"	3.12"	.34"	16°	D2B	2-3-258KX
1280/1310	5-153X	3.47"	1.06"	1.38"-16	6.88"	6.34"	5.38"	.34"	30°	D2C	2-3-5221KX
1350	5-178X	3.88"	1.19"	1.50"-16	3.94"	3.34"	2.75"	.28"	20°	D3A	3-3-388KX
1350	5-178X	3.88"	1.19"	1.50"-16	7.31"	6.72"	6.12"	.28"	20°	D3A	3-3-488KX
1410	5-160X	4.44"	1.19"	1.50"-16	6.50"	5.90"	5.34"	.28"	20°	D3A	3-3-118KX
1410	5-160X	4.44"	1.19"	1.50"-16	3.91"	3.31"	2.75"	.28"	20°	D3A	3-3-468KX
1410	5-160X	4.44"	1.19"	1.50"-16	7.81"	7.21"	6.47"	.28"	28°	D3A	3-3-508KX
1410	5-160X	4.44"	1.19"	1.75"-16	3.25"	2.65"	2.44"	.28"	8°	D4F	3-3-1511KX
1410	5-262X	4.44"	1.19"	1.56"-16	11.50"	10.90"	9.50"	.40"	37°	D3H	3-3-2381KX
1480	5-188X	4.44"	1.38"	1.56"-16	6.81"	6.12"	5.50"	.40"	21°	D3H	3-3-1601KX
1480	5-188X	4.44"	1.38"	2.25"-10	3.72"	3.03"	2.59"	.25"	8°	D3D	3-3-1621KX
1480	5-188X	4.44"	1.38"	1.56"-16	9.50"	8.81"	7.50"	.40"	35°	D3H	3-3-1641KX
1550	5-155X	5.25"	1.38"	1.75"-16	6.88"	6.18"	5.50"	.257"	22°	D4J	4-3-1241KX
1550	5-155X	5.25"	1.38"	2.50"-16	3.50"	2.81"	2.56"	.413"	8°	D4L	4-3-1261KX
1550	5-155X	5.25"	1.38"	1.75"-16	10.06"	9.37"	8.00"	.257"	35°	D4J	4-3-1431KX
1550	5-155X	5.25"	1.38"	1.75"-16	5.38"	4.69"	4.00"	.257"	—	D4J	4-3-1751KX
1610	5-279X	5.31"	1.88"	2"-16	7.81"	6.88"	6.38"	—	22°	5-86-68	5-3-108KX
1610	5-279X	5.31"	1.88"	2.673"-18 Inv.	3.50"	2.57"	2.25"	.38"	8°	D5C	5-3-168KX
1610	5-279X	5.31"	1.88"	2.673"-18 Inv.	4.00"	3.07"	2.75"	.38"	8°	D5C	5-3-188KX

Slip Yoke Assemblies

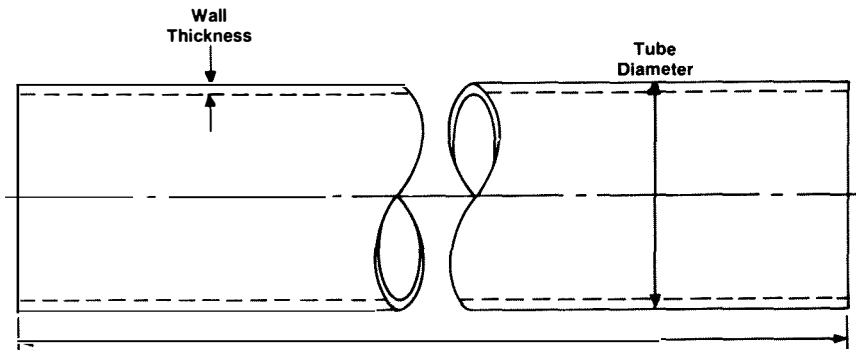
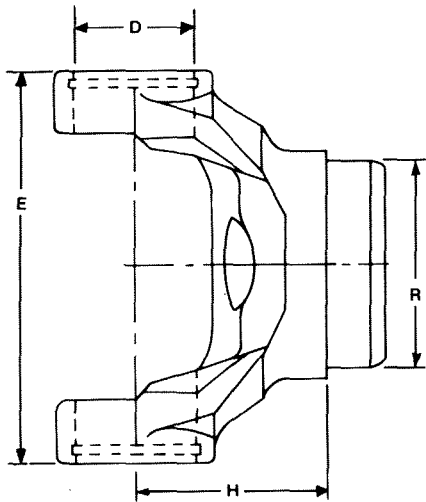
Series	U-Joint Kit	E	D	M	J	K	Q	O	Joint Angle (1)	Dust Cap or Kit	Slip Yoke Assembly Part Number
		Distance Across Lugs	Bearing Diameter	Spline Diameter & Number	Centerline to End of Spline	Bottom of Cross Hole to End of Spline	Length Thru Hole	End of Slip Yoke to Inside of Dust Cap			
1610	5-279X	5.31"	1.88"	2.673"-18 Inv.	4.25"	3.32"	3.00"	.38"	8°	D5C	5-3-198KX
1610	5-279X	5.31"	1.88"	2"-16	9.31"	8.38"	7.38"	—	30°	5-86-68	5-3-288KX
1610	5-279X	5.31"	1.88"	2"-16	11.94"	11.00"	9.00"	—	45°	5-86-68	5-3-2141KX
1610	5-279X	5.31"	1.88"	2"-16	10.81"	9.88"	8.38"	—	30°	5-86-68	5-3-2261KX
1710	5-280X	6.09"	1.94"	3.25"-18 Inv.	4.88"	3.91"	3.50"	.362"	28°/35°	D6E	6-3-1481KX
1710	5-280X	6.09"	1.94"	3.25"-18 Inv.	4.12"	3.15"	2.74"	.362"	8°	D6E	6-3-1661KX
1710	5-280X	6.09"	1.94"	2.50"-16	8.84"	7.87"	7.50"	—	22°	6.3-86-18	6-3-2631KX
1710	5-280X	6.09"	1.94"	2.50"-16	11.69"	10.72"	9.25"	—	23°/29°	6.3-86-18	6-3-2651KX
1710	5-280X	6.09"	1.94"	2.50"-16	9.59"	8.62"	7.875"	—	21°	6.3-86-18	6-3-2671KX
1710	5-280X	6.09"	1.94"	2.50"-16	7.47"	6.50"	7.625"	—	21°	6.3-86-18	6-3-2741KX
1760	5-407X	7"	1.94"	2.50"-16	11.16"	10.19"	8.69"	—	30°	6.3-86-18	6.3-3-21KX
1760	5-407X	7"	1.94"	2.50"-16	9.25"	8.28"	6.78"	—	30°	6.3-86-18	6.3-3-41KX
1810	5-281X	7.55"	1.94"	3"-16	10.25"	9.28"	7.88"	—	30°	6.5-86-38	6.5-3-1351KX
1810	5-281X	7.55"	1.94"	3"-16	11.88"	10.91"	9.50"	—	30°	6.5-86-38	6.5-3-1371KX
1810	5-281X	7.55"	1.94"	3"-16	8.94"	7.97"	7.38"	—	30°	6.5-86-38	6.5-3-1431KX
1810	5-281X	7.55"	1.94"	3.25"-18 Inv.	5.38"	4.41"	3.88"	.50"	12°	D6E	6.5-3-1451KX
1880	5-308X	8.09"	2.18"	3"-16	10.03"	8.93"	8.00"	—	22°	6.5-86-38	8-3-391KX
1880	5-308X	8.09"	2.18"	3"-16	11.65"	10.56"	9.62"	—	22°	6.5-86-38	8-3-411KX
1880	5-308X	8.09"	2.18"	4.17"-24 Inv.	5.03"	3.94"	3.62"	.50"	8°	D9A	8-3-431KX
1910	5-316X	—	2.56"	3.163"-36 Inv.	8.94"	7.66"	6.30"	—	20°	—	9-3-481KX
1910	5-316X	—	2.56"	3.163"-36 Inv.	11.94"	10.66"	9.30"	—	22°	—	9-3-481-1KX
1950	5-339X	—	3.062"	4.167"-24 Inv.	13.875"	12.34"	10.313"	.50"	20°	D9A	9-3-221KX
1950	5-339X	—	3.062"	4.167"-24 Inv.	10.875"	9.34"	7.313"	.50"	20°	D9A	9-3-241KX
1950	5-339X	—	3.062"	4.167"-24 Inv.	9.688"	8.157"	6.126"	.50"	20°	D9A	9-3-261KX
2050	5-340X	—	3.812"	5.835"-34 Inv.	15.438"	13.532"	12.38"	.50"	—	D11A	9-3-331-1KX
2050	5-340X	—	3.812"	5.835"-34 Inv.	11.938"	10.032"	8.50"	.50"	—	D11A	9-3-331-2KX
2050	5-340X	—	3.812"	5.835"-34 Inv.	17.56"	15.654"	14.50"	.50"	—	D11A	9-3-331-4KX
2150	5-298X	—	4.750"	5.835"-34 Inv.	20.938"	18.563"	17.87"	.50"	—	D11A	9-3-351-1KX

Inv — Involute

(1) The angles shown are the maximum for momentary operation.

Example: 23°/29°. 23° angle when mated with long lug yokes.
29° angle when mated with short lug yokes.

Tubing and Tube Yokes



74" } Lengths Tubing Available
108" }

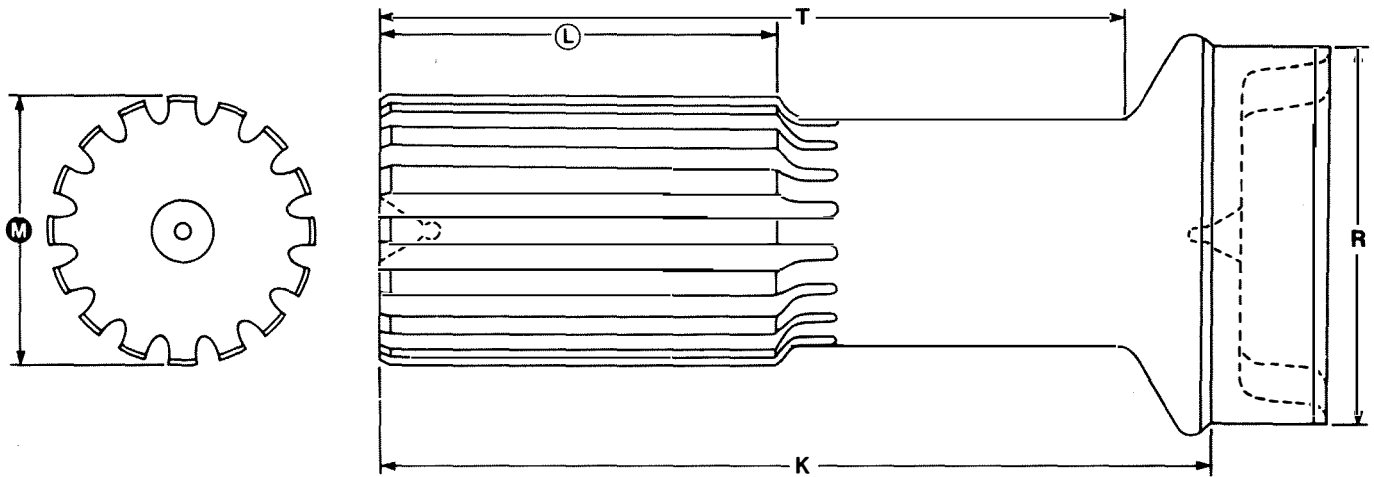
Series	U-Joint Kit	Tubing		Tube Yoke					Part Number
		Size W—Welded	Part Number	E Distance Across Lugs	D Bearing Diameter	R Hub Diameter	H Centerline to Point of Weld	Operating Angle (1)	
1280/1310	5-153X	2.50" x .083"W	20-30-22-	3.47"	1.06"	2.34"	1.84"	30°	2-28-367
1350	5-178X	3" x .083"W	24-30-42-	3.88"	1.19"	2.84"	2"	20°	3-28-57
1410	5-262X	3" x .083"W	24-30-42-	4.44"	1.19"	2.84"	2.13"	30°	3-28-97
1410	5-160X	3.50" x .083"W	28-30-62-	4.44"	1.19"	3.34"	2.12"	30°	3-28-557
1480	5-188X	3.50" x .083"W	28-30-62-	4.44"	1.38"	3.34"	2.03"	22°	3-28-537
1480	5-188X	3.50" x .083"W	28-30-62-	4.44"	1.38"	3.34"	2.31"	33°	3-28-547
1480	5-188X	4" x .083"W	32-30-22-	4.44"	1.38"	3.84"	2.03"	22°	3-28-507
1550	5-155X	3.50" x .095"W	28-30-22-	5.25"	1.38"	3.32"	2.19"	22°	4-28-307
1550	5-155X	3.50" x .095"W	28-30-22-	5.25"	1.38"	3.32"	2.69"	35°	4-28-417
1610	5-279X	4" x .134"W	32-30-52-	5.31"	1.88"	3.74"	3"	—	5-28-327
1610	5-279X	3.50" x .134"W	28-30-92-	5.31"	1.88"	3.25"	3"	35°	5-28-627
1610	5-279X	3.50" x .134"W	28-30-92-	5.31"	1.88"	3.25"	4.87"	45°	5-28-667
1710	5-280X	4" x .134"W	32-30-52-	6.09"	1.94"	3.75"	3.03"	22°/30°	6-28-347
1710	5-280X	4.09" x .180"W	32-30-72-	6.09"	1.94"	3.75"	3.03"	22°/30°	6-28-347
1710	5-280X	4.50" x .134"W	36-30-62-	6.09"	1.94"	4.25"	3.03"	22°	6-28-407
1760	5-407X	4.06" x .165"W	32-30-102-	7"	1.94"	3.74"	3.03"	30°	6-3-28-17

(1) The angles shown are the maximum for momentary operation
Example 22°/30°. 22° angle when mated with long lug yokes
30° angle when mated with short lug yokes

Tubing and Tube Yokes

Series	U-Joint Kit	Tubing		Tube Yoke					
		Size W—Weided	Part Number	E Distance Across Lugs	D Bearing Diameter	R Hub Diameter	H Centerline to Point of Weld	Operating Angle	Part Number
1810	5-281X	4.50" × .134"W	36-30-62-	7.55"	1.94"	4.24"	3.38"	30°	6.5-28-117
1810	5-281X	4.50" × .259"W	36-30-22-	7.55"	1.94"	4"	3.38"	30°	6.5-28-127
1880	5-308X	4.50" × .259"W	36-30-22-	8.09"	2.18"	4"	4"	22°	8-28-147
1910	5-316X	4.75" × .250"W	38-30-12-	—	2.560"	4.25"	4.19"	20°	9-28-37X
1950	5-339X	5.25" × .375"W	42-30-12-	—	3.062"	4.50"	6.531"	20°	9-26-38X
1950	5-339X	6" × .500"W	48-32-12-	—	3.062"	5.146"	6.531"	20°	9-26-18X
2050	5-340X	8" × .375"W	64-32-12-	—	3.813"	7.375"	8.09"	20°	9-26-197
2150	5-298X	9" × .625"W	72-32-12-	—	4.75"	8"	9.25"	19°	9-26-227

Tube Shafts



Series	M	L	Tubing Size W—Welded	R	T	K	Tube Shaft
	Spline Diameter & Number	Length of Spline		Hub Diameter	End of Spline to Point of Radius	End of Spline to Point of Weld	Part Number

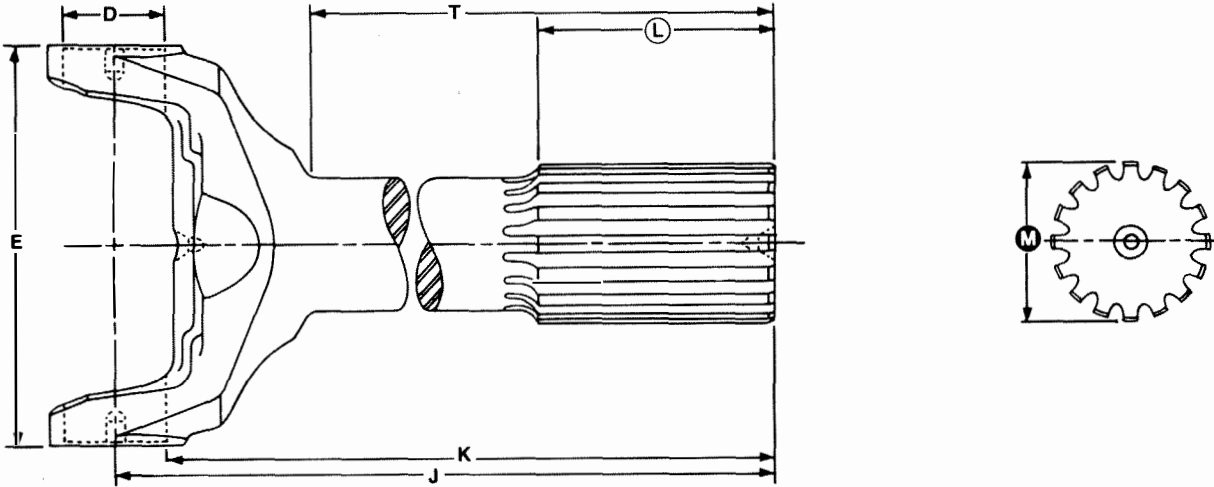
Glidecote® Spline Assemblies

1280/1310	1.38"-16	2.25"	2.50" x .083"W	2.34"	5.62"	6.34"	2-40-1711
1350	1.50"-16	2.50"	3" x .083"W	2.84"	6.44"	7.25"	3-40-1611
1410	1.50"-16	3"	3.50" x .083"W	3.34"	5.62"	6.56"	3-40-1531
1410	1.50"-16	3"	3.50" x .083"W	3.34"	6.39"	7.53"	3-40-1491
1410	1.56"-16	5"	3" x .083"W	2.84"	12.59"	13.41"	3-40-1711
1480	1.56"-16	3"	4" x .083"W	3.84"	7.81"	8.94"	3-40-1551
1480	1.56"-16	3"	3.50" x .083"W	3.34"	5.81"	6.75"	3-40-1571
1480	1.56"-16	3"	3.50" x .083"W	3.34"	7.81"	8.75"	3-40-1391
1550	1.75"-16	3"	3.50" x .095"W	3.32"	8.25"	9.22"	4-40-721
1550	1.75"-16	3"	3.50" x .095"W	3.32"	5.81"	6.78"	4-40-761
1610	2"-16	3.50"	3.50" x .134"W	3.24"	8.78"	9.69"	5-40-1011
1610	2"-16	3.50"	3.50" x .134"W	3.24"	9.28"	10.19"	5-40-1041
1610	2"-16	3.50"	3.50" x .134"W	3.24"	6.66"	7.56"	5-40-1191
1610	2"-16	3.50"	4" x .134"W	3.74"	8.78"	9.84"	5-40-1051
1710	2.50"-16	4"	4" x .134"W	3.74"	9.56"	10.56"	6-40-521
1710	2.50"-16	4"	4.09" x .180"W	3.74"	9.56"	10.56"	6-40-521
1710	2.50"-16	4"	4" x .134"W	3.74"	8.25"	9.25"	6-40-541

Tube Shafts

Series	Ⓜ	Ⓛ	Tubing Size W—Welded	R	T	K	Tube Shaft Part Number
	Spline Diameter & Number	Length of Spline		Hub Diameter	End of Spline to Point of Radius	End of Spline to Point of Weld	
1710	2.50"-16	4"	4.09" x .180"W	3.74"	8.25"	9.25"	6-40-541
1710	2.50"-16	4"	4.50" x .134"W	4.24"	9.47"	10.65"	6-40-621
1710	2.50"-16	4"	4.50" x .134"W	4.24"	8.31"	9.50"	6-40-631
1710	2.50"-16	4"	4" x .134"W	3.74"	7.43"	8.44"	6-40-711
1760	2.50"-16	4"	4.06" x .165"W	3.74"	8.25"	9.25"	6-40-541
1810	3"-16	4.50"	4.50" x .134"W	4.24"	10.03"	11.25"	6.5-40-191
1810	3"-16	4.50"	4.50" x .134"W	4.24"	8.41"	9.47"	6.5-40-201
1810	3"-16	4.50"	4.50" x .259"W	4"	8.59"	9.91"	8-40-91
1810	3"-16	4.50"	4.50" x .259"W	4"	10.22"	11.53"	8-40-101
1880	3"-16	4.50"	4.50" x .259"W	4"	8.59"	9.90"	8-40-91
1880	3"-16	4.50"	4.50" x .259"W	4"	10.22"	11.53"	8-40-101
1950	4.167"-24 Inv.	6.50"	5.25" x .375"W	4.50"	11.94"	13.47"	9-42-311
1950	4.167"-24 Inv.	6.50"	6" x .500"W	5.15"	11.94"	13.47"	9-42-421
2050	5.835"-34 Inv.	9.50"	8" x .375"W	7.38"	12.88"	14.50"	9-42-281
2050	5.835"-34 Inv.	9.50"	8" x .375"W	7.38"	14.97"	16.60"	9-42-351
2150	5.835"-34 Inv.	12"	9" x .625"W	8"	17.56"	19.63"	9-42-301

Yoke Shafts



Series	U-Joint Kit	E	D	M	L	J	K	T	Joint Angle (1)	Yoke Shaft
		Distance Across Lugs	Bearing Diameter	Spline Diameter & Number	Length of Spline	Centerline to End of Spline	Bottom of Cross Hole to End of Spline	End of Spline to Point of Radius		Part Number
1280/1310	5-153X	3.47"	1.06"	1.25"-16	1.88"	5.12"	4.59"	3.34"	15°	2-82-51
1350	5-178X	3.88"	1.19"	1.50"-16	2"	5.19"	4.59"	3.12"	20°	3-82-61
1410	5-160X	4.44"	1.19"	1.50"-16	2"	4.97"	4.38"	3.12"	22°	3-82-81
1410	5-160X	4.44"	1.19"	1.75"-16	1.44"	4.54"	3.95"	2.67"	8°	3-82-261
1480	5-188X	4.44"	1.38"	2.25"-10	1.59"	4.38"	3.68"	2.81"	8°	3-82-271
1550	5-155X	5.25"	1.38"	2.50"-16	1.56"	4.56"	3.88"	2.87"	8°	4-82-191
1550	5-155X	5.25"	1.38"	2.50"-16	1.56"	4.81"	4.12"	3.12"	8°	4-82-201
1550	5-155X	5.25"	1.38"	1.75"-16	2.50"	6.81"	6.12"	4.25"	22°	4-82-371
1610	5-279X	5.31"	1.88"	2.673"-18 Inv.	1.50"	4.12"	3.19"	2.43"	8°	5-82-161
1610	5-279X	5.31"	1.88"	2"-16	3.50"	15.93"	15"	10.81"	45°	5-82-751-1
1610	5-279X	5.31"	1.88"	2"-16	3.50"	15"	14.06"	9.87"	45°	5-82-751-2
1610	5-279X	5.31"	1.88"	2"-16	3.50"	16.31"	15.38"	11.18"	45°	5-82-751-3
1610	5-279X	5.31"	1.88"	2"-16	3.50"	15.50"	14.56"	10.37"	45°	5-82-751-5
1610	5-279X	5.31"	1.88"	2"-16	3.50"	14.41"	13.47"	9.28"	45°	5-82-751-10
1610	5-279X	5.31"	1.88"	2"-16	3.50"	12.06"	11.13"	8.50"	30°/35°	5-82-831-1
1710	5-280X	6.09"	1.94"	3.25"-18 Inv.	2"	5.25"	4.28"	3.13"	15°	6-82-341
1710	5-280X	6.09"	1.94"	2.50"-16	4"	12.16"	11.18"	8.48"	24°/29°	6-82-1091-1
1710	5-280X	6.09"	1.94"	2.50"-16	4"	13.16"	12.18"	9.48"	24°/29°	6-82-1091-2
1710	5-280X	6.09"	1.94"	2.50"-16	4"	14.16"	13.18"	10.48"	24°/29°	6-82-1091-3
1710	5-280X	6.09"	1.94"	2.50"-16	4"	13.44"	12.47"	9.76"	24°/29°	6-82-1091-4

Inv. - Involute

(1) The angles shown are the maximum for momentary operation.
 Example 30°/35°. 30° angle when mated with long lug yokes.
 35° angle when mated with short lug yokes.

Yoke Shafts

Series	U-Joint Kit	E	D	M	L	J	K	T	Joint Angle (1)	Yoke Shaft
		Distance Across Lugs	Bearing Diameter	Spline Diameter & Number	Length of Spline	Centerline to End of Spline	Bottom of Cross Hole to End of Spline	End of Spline to Point of Radius		Part Number
1710	5-280X	6.09"	1.94"	2.50"-16	4"	14.56"	13.59"	10.88"	24°/29°	6-82-1091-5
1710	5-280X	6.09"	1.94"	2.50"-16	4"	12.66"	11.68"	8.98"	24°/29°	6-82-1091-8
1710	5-280X	6.09"	1.94"	2.50"-16	4"	13.63"	12.66"	9.95"	24°/29°	6-82-1091-9
1710	5-280X	6.09"	1.94"	2.50"-16	4"	14.06"	13.09"	10.38"	24°/29°	6-82-1091-10
1710	5-280X	6.09"	1.94"	2.50"-16	4"	12.28"	11.31"	8.60"	24°/29°	6-82-1091-13
1710	5-280X	6.09"	1.94"	2.50"-16	4"	13.91"	12.94"	10.23"	24°/29°	6-82-1091-15
1710	5-280X	6.09"	1.94"	2.50"-16	3.50"	9.66"	8.68"	6.32"	24°/29°	6-82-1171-10
1710	5-280X	6.09"	1.94"	2.50"-16	3.50"	10.16"	9.18"	6.82"	24°/29°	6-82-1171-11
1710	5-280X	6.09"	1.94"	2.50"-16	3.50"	10.66"	9.68"	7.32"	24°/29°	6-82-1171-12
1710	5-280X	6.09"	1.94"	2.50"-16	3.50"	11.66"	10.68"	8.32"	24°/29°	6-82-1171-13
1760	5-407X	7"	1.94"	2.50"-16	4"	11"	10.03"	8.19"	30°	6-3-82-21-1
1760	5-407X	7"	1.94"	2.50"-16	4"	11.50"	10.53"	8.69"	30°	6-3-82-21-2
1760	5-407X	7"	1.94"	2.50"-16	4"	12"	11.03"	9.19"	30°	6-3-82-21-3
1760	5-407X	7"	1.94"	2.50"-16	4"	12.50"	11.53"	9.69"	30°	6-3-82-21-4
1760	5-407X	7"	1.94"	2.50"-16	4"	12.38"	11.41"	9.57"	30°	6-3-82-21-5
1760	5-407X	7"	1.94"	2.50"-16	4"	12.88"	11.91"	10.07"	30°	6-3-82-21-6
1760	5-407X	7"	1.94"	2.50"-16	4"	13.38"	12.41"	10.57"	30°	6-3-82-21-7
1760	5-407X	7"	1.94"	2.50"-16	4"	13.88"	12.91"	11.07"	30°	6-3-82-21-8
1760	5-407X	7"	1.94"	2.50"-16	4"	14.38"	13.41"	11.57"	30°	6-3-82-21-9
1760	5-407X	7"	1.94"	2.50"-16	4"	14.88"	13.91"	12.07"	30°	6-3-82-21-10
1760	5-407X	7"	1.94"	2.50"-16	4"	15.38"	14.41"	12.57"	30°	6-3-82-21-11
1810	5-281X	7.55"	1.94"	3"-16	4"	11.44"	10.47"	7.81"	30°	6-5-82-451-1
1810	5-281X	7.55"	1.94"	3"-16	4"	12.44"	11.47"	8.81"	30°	6-5-82-451-5
1810	5-281X	7.55"	1.94"	3"-16	4.50"	12.68"	11.71"	8.81"	30°	6-5-82-461-2
1810	5-281X	7.55"	1.94"	3"-16	4.50"	13.81"	12.84"	9.94"	30°	6-5-82-461-8
1810	5-281X	7.55"	1.94"	3"-16	4.50"	15.06"	14.09"	11.18"	30°	6-5-82-461-10
1810	5-281X	7.55"	1.94"	3"-16	4.50"	15.68"	14.71"	11.81"	30°	6-5-82-461-11
1810	5-281X	7.55"	1.94"	3"-16	4.50"	16.31"	15.34"	12.44"	30°	6-5-82-461-12
1810	5-281X	7.55"	1.94"	3.25"-18 Inv.	2.75"	6.71"	5.75"	4.18"	12°	6-5-82-511-1
1810	5-281X	7.55"	1.94"	3.25"-18 Inv.	2.75"	7.21"	6.25"	4.68"	12°	6-5-82-511-3
1880	5-308X	8.09"	2.18"	3"-16	4.50"	12.844"	11.750"	8.532"	22°	8-82-161-1
1880	5-308X	8.09"	2.18"	3"-16	4.50"	13.844"	12.750"	9.532"	22°	8-82-161-3
1880	5-308X	8.09"	2.18"	3"-16	4.50"	14.844"	13.750"	10.532"	22°	8-82-161-6
1880	5-308X	8.09"	2.18"	3"-16	4.50"	15.344"	14.250"	11.032"	22°	8-82-161-7
1880	5-308X	8.09"	2.18"	4.17"-24 Inv.	2.625"	7.219"	6.125"	4.156"	8°	8-82-171-1
1910	5-316X	—	2.56"	3.163"-36 Inv.	4.49"	10.51"	9.23"	6.30"	—	9-82-271X
1950	5-339X	—	3.062"	4.167"-24 Inv.	5"	16.188"	14.657"	9.344"	20°	9-82-201X
1950	5-339X	—	3.062"	4.167"-24 Inv.	5"	14.310"	12.779"	7.810"	—	9-82-241X
2050	5-340X	—	3.813"	5.835"-34 Inv.	6"	17.312"	15.406"	9.375"	—	9-82-141-1X
2150	5-298X	—	4.750"	5.835"-34 Inv.	12"	29.50"	27.125"	17.570"	—	9-82-181-1X

Inv. - Involute

(1) The angles shown are the maximum for momentary operation.

Example 30°/35°, 30° angle when mated with long lug yokes,
35° angle when mated with short lug yokes

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Spicer® INDUSTRIAL COUPLINGS

SPECIFICATION INFORMATION

CUSTOMER _____ ADDRESS _____

CONTACT _____ PHONE _____ EXT. _____

USED ON (TYPE OF EQUIPMENT) _____

PURPOSE OF COUPLING _____

TORQUE — OPERATING _____ TORQUE — MAXIMUM _____

RPM — OPERATING _____ RPM-MINIMUM _____ RPM-MAXIMUM _____

A-1 - Compressed (Min. Length) _____ F - Length of Pilot _____

B-1 - Bolt Hole Circle _____ G - Flange Thickness _____

B-2 - Bolt Hole Dia. & Number _____ H - Flange Face to Centerline _____

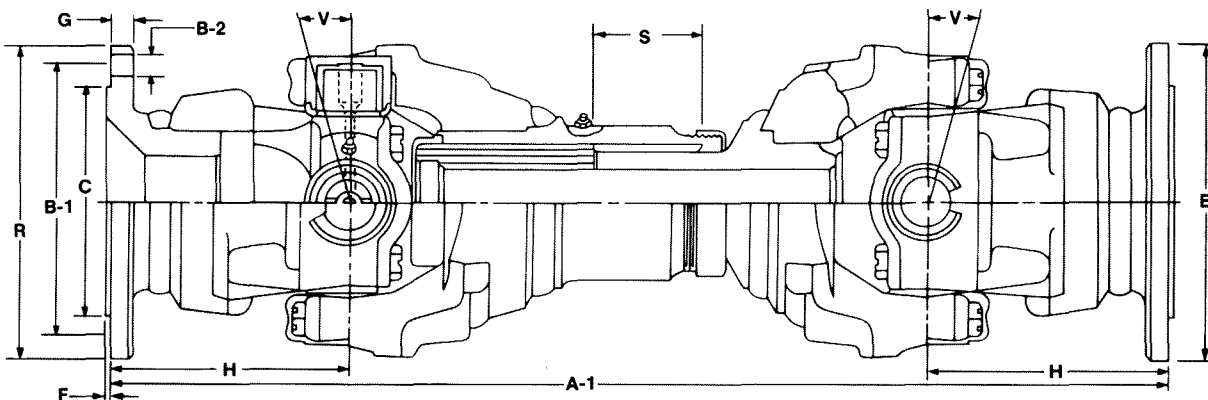
C - Pilot Dia. _____ R - Flange Dia. _____

D - Tube Dia. & Size _____ S - Total Slip _____

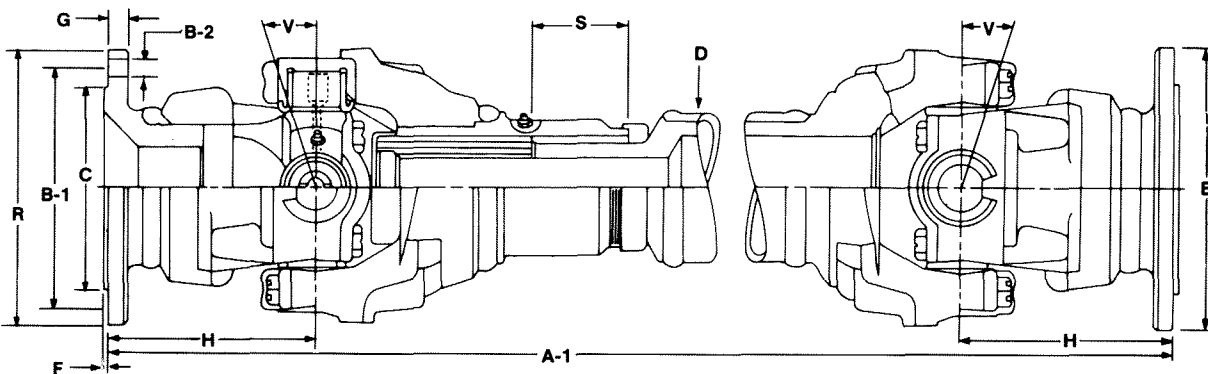
E - Maximum Swing Dia. _____ V - Maximum Joint Angle _____

REMARKS: _____

SHORT COUPLED ASSEMBLY



TWO JOINT ASSEMBLY



APPLICATION DATA FOR METAL WORKING EQUIPMENT

Customer _____ Order or Inquiry No. _____

Type of Equipment _____ No. of Stands or Strands _____
 (Billet, Section, Bar, Hot, Cold Strip Mill, Con.-Cast. Etc.)

Type of Operation _____ Ambient Temperature _____

Ambient Conditions _____

Type of Motor (Circle One) D.C. A.C. If A.C. Drive with Flywheel, describe _____

Roll change horizontal/vertical _____

Frequency _____

How is spindle supported during roll change _____

Roll Diameter _____ Max. _____ Min. _____

If reversing mill, what is Max. Torque under full load _____

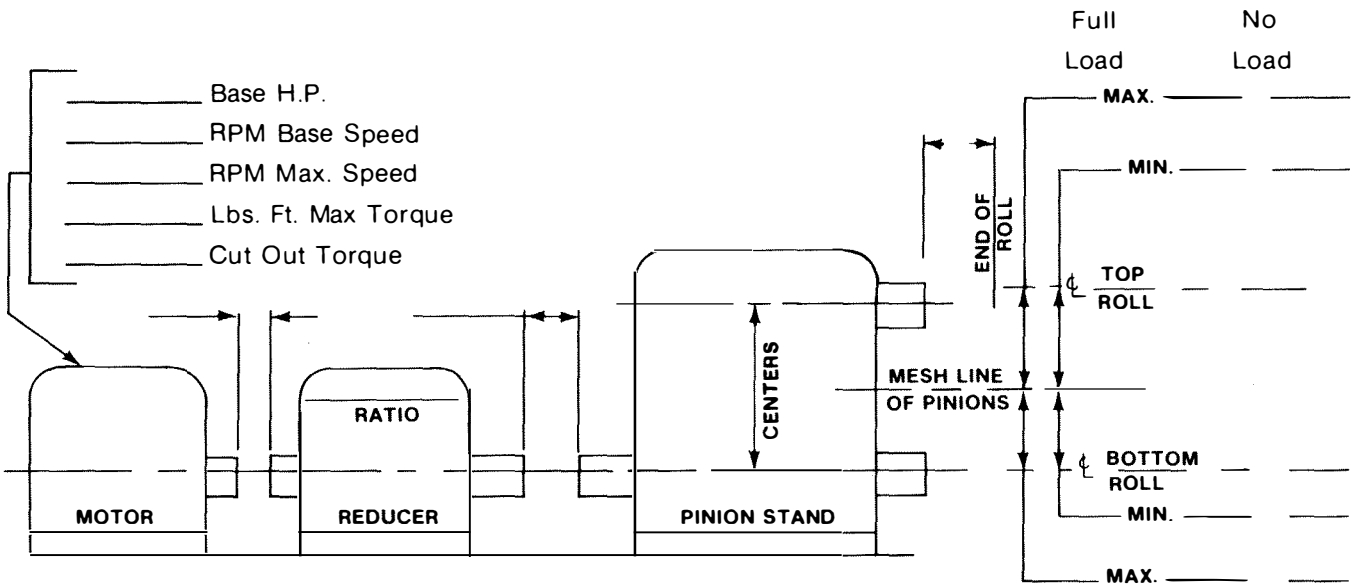
Misalignment conditions:

Maximum offset ϕ roll to ϕ drive pinion-under load _____ in. top roll
 _____ in. bottom roll

Maximum offset ϕ roll to ϕ drive pinion-no load _____ in. top roll
 _____ in. bottom roll

Normal Working Torque _____ Max. Working Torque _____

Impact Torque _____ Life Expectancy _____ Hrs. _____



Please sketch shaft and roll end configurations on separate sheet and attach to this specification sheet.

Comments or Special Conditions:

Measurement Equivalents

FRACTION	DECIMAL	MILLIMETERS
$1/64$	.01563	.3969
$1/32$	.03125	.7938
	.03937	1.0000
$1/16$	.06250	1.5875
$3/64$	.04688	1.1906
$5/64$	.07813	1.9844
	.07874	2.0000
$3/32$	.09375	2.3813
$7/64$	.10938	2.7781
	.11811	3.0000
$1/8$	.12500	3.1750
$9/64$	.14063	3.5719
$5/32$	.15625	3.9688
	.15748	4.0000
$11/64$	.17188	4.3656
$3/16$	.18750	4.7625
	.19685	5.0000
$13/64$	.20313	5.1594
$7/32$	.21875	5.5563
$15/64$	.23438	5.9531
	.23622	6.0000
$1/4$	.25000	6.3500
$17/64$	.26563	6.7469
	.27559	7.0000
$9/32$	.28125	7.1438
$19/64$	.29688	7.5406
$5/16$	.31250	7.9375
	.31496	8.0000
$21/64$	.32813	8.3344
$11/32$	.34375	8.7313
	.35433	9.0000
$23/64$	.35938	9.1281
$3/8$	.37500	9.5250
$25/64$	.39063	9.9219
	.39370	10.0000
$13/32$	.40625	10.3188
$27/64$	.42188	10.7156
	.43307	11.0000
$7/16$	.43750	11.1125
$29/64$	.45313	11.5094
$15/32$	.46875	11.9063
	.47244	12.0000
$31/64$	.48438	12.3031
$1/2$	.50000	12.7000

FRACTION	DECIMAL	MILLIMETERS
	.51181	13.0000
$33/64$	.51563	13.0969
$17/32$	.53125	13.4938
$35/64$	.54688	13.8906
$9/16$	.55118	14.0000
$37/64$	.56250	14.2875
	.57813	14.6844
	.59055	15.0000
$19/32$	.59375	15.0813
$39/64$	.60938	15.4781
$5/8$	.62500	15.8750
	.62992	16.0000
$41/64$	.64063	16.2719
$21/32$	.65625	16.6688
	.66929	17.0000
$43/64$	.67188	17.0656
$11/16$	.68750	17.4625
$45/64$	.70313	17.8594
	.70866	18.0000
$23/32$	.71875	18.2563
$47/64$	.73438	18.6531
	.74803	19.0000
$3/4$	.75000	19.0500
$49/64$	.76563	19.4469
$25/32$	.78125	19.8438
	.78740	20.0000
$51/64$	.79688	20.2406
$13/16$	.81250	20.6375
	.82677	21.0000
$53/64$	.82813	21.0344
$27/32$	.84375	21.4313
$55/64$	.85938	21.8281
	.86614	22.0000
$7/8$	.87500	22.2250
$57/64$	.89063	22.6219
	.90551	23.0000
$29/32$	.90625	23.0188
$59/64$	.92188	23.4156
$15/16$	.93750	23.8125
	.94488	24.0000
$61/64$	.95313	24.2094
$31/32$	.96875	24.6063
	.98425	25.0000
$63/64$	.98438	25.0031
1	1.00000	25.4000



DRIVETRAIN SERVICE DIVISION

DANA CORPORATION, P.O. BOX 321, TOLEDO, OHIO 43697