



CONTENTS

Torque Limiters/Clutches

Introduction	54
Roller Chain Torque Limiters	55
Clutch Component Part Information	56
Clutch Hub Data	57
Inline Clutch.....	58



**Together
For Success**



Quality

Parts



INTRODUCTION

Black Ace[®] Torque Limiters/Clutches

- Friction Disc Style
- Made From Steel For Strength
- Steel Clutch Faces Remain True, Meaning More Consistent Torque
- Steel Clutch Hubs Are Stronger And Don't Rust As Quickly As Cast Iron
- Steel Hubs Don't Break When Pulling Off The Shaft
- Steel Pressure Plates Don't Rust As Quickly Or Distort As Much As Cast Iron
- Made With A Wide Variety Of Torque Ranges, Up To 3,000 ft-lbs
- Made In Roller Chain And Inline Styles
- Available With Torque Limiting Tubes
- Design And Production For Custom Applications



Roller Chain Torque Limiters



- Steel Construction for strength and stability
- Optional bore sizes & split taper bushings
- Optional and standard torque tubes for predictable torque settings

Explanation of Roller Chain Torque Limiters Item Numbers

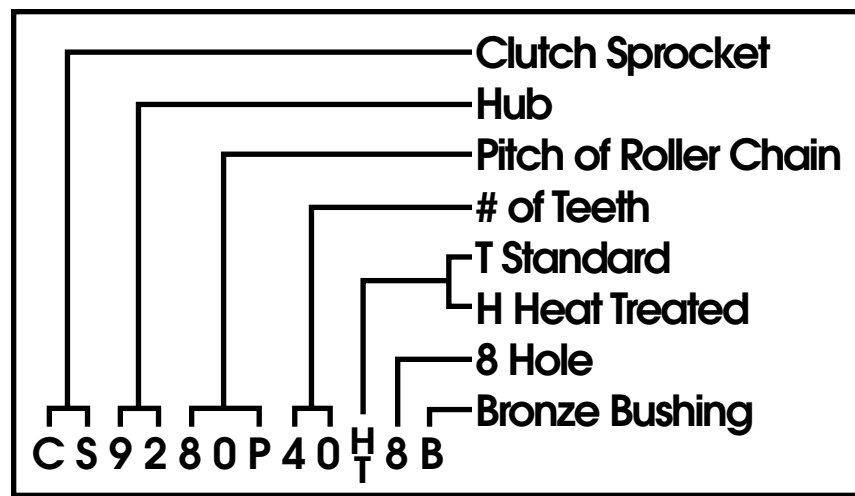


Figure 55A

ROUND BORE SIZES

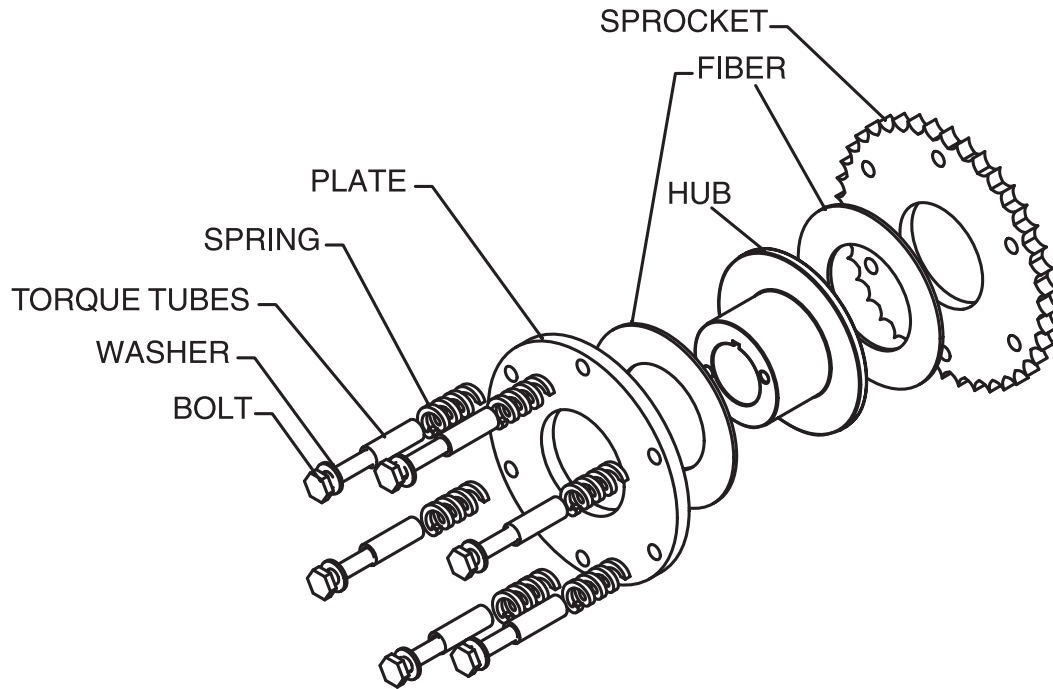
A = 1"	K = 1-5/16"
B = 1-1/4"	L = 1-11/16"
C = 1-3/8"	M = 1-3/4"
D = 1-15/16"	N = 1-1/2"
E = 2"	O = 1-5/8"
F = 2-7/16"	P = 2-1/2"
G = 1-3/16"	Q = 1-1/8"
H = 1-7/16"	R = 2-3/16"
I = 2-1/4"	S = 2-3/4"
J = 1-7/8"	

KEYWAY SIZES

1 = 1/2"	6 = 5/16"
4 = 3/8"	7 = 3/16"
5 = 1/4"	8 = 1/8"

SQUARE BORE SIZES

T = 1-1/4"	X = 1"
V = 1-3/4"	Y = 1-1/2"
W = 2"	Z = 1-1/8"



Clutch Component Part Information

ALL DIMENSIONS IN INCHES

Hub #	Fiber Disk	Plate	Spring	Torque Tube	Bolt	Washer
CH1	CF52L	CPCH	3201	N/A	BOLT0X3C	WA11
CH125	CF52L	CPCH	3201	N/A	BOLT0X3C	WA11
CH37	CF37	CP37-6	3246	Optional	BOLT0X3.25	WA4Z
CH44	CF44	CP44	3246	Optional	BOLT0X3	WA4Z
CH45	CF45	CP45	3246	Optional	BOLT0X3.5	WA4Z
CH47	CF47	CP47-6	3246	Optional	BOLT0X3.25	WA4Z
CH59	CF59	CP59	3246	Optional	BOLT1X3	WA3
CH641	CF65	CP64B	3246	PLT 23.2	BOLT1X3.25	WA3
CH65	CF65	CP65B	3246	Optional	BOLT0X3.23	WA4Z
CH651	CF65	CP65B	3246	PLT23.2	BOLT0X3.25	WA4Z
CH66	CF66	CP 66-B CP66B-8	3246	Optional	BOLT1X3.25	WA4Z
CH92	CF92	CP92B CP92B-8	3246	PLT28.7	BOLT1X3.5	WA3
CH921	CF92	CP92B CP92B-8	3246	PLT28.7	BOLT1X3.5	WA3





Clutch Hub Data

Hub #	Hub Wear Area OD ID	Smallest Sprocket DIA	# of Springs Standard	Approx. Torque	Bronze Pressure Plate	Standard Bore & Keyway Sizes
CH1	5.2 x 3.5	60P35T 60P26T	3	400 Ft# 3 Springs	NO	A5
CH125	5.2 x 3.5	50P35T 60P26T	3	400 Ft# 3 Springs	NO	B5
CH37	3.7 x 2.2	50P27T 60P22T 80P18T	4	400 Ft# 4 Springs	NO	A5, B5, C6
CH44	4.37 x 2.25	50P31T or 33T* 60P26T or 29T* 80P20T or 22T*	6	600 Ft# 8 Springs	NO	B5, B6 C4, C6
CH45	2.5 x 2.25	50P31T or 33T* 60P26T or 29T* 80P20T or 22T*	4	600 Ft# 8 Springs	NO	A5, B5, B6 C4, C5, C6 H4, Q5
CH47	4.75 x 2.50	50P33T or 35T* 60P28T or 31T* 80P22T or 23T*	6	800 Ft# 8 Springs	NO	A5, B5, M4
CH59	5.95 x 2.75	60P40T 60P35T 80P27T	6	1000 Ft# 8 Springs	NO	B5, E4 M4, N4
CH641	6.46 x 3.63	50P41T 60P37T 80P28T	6	1300 Ft# 12 Springs	YES	Split Taper Bushing P
CH65	6.46 x 3.63	50P41T or 43T* 60P35T or 36T* 80P27T or 28T*	6	1300 Ft# 12 Springs	YES	B5, C6, E1, E4 H4, M4, N4
CH651	6.46 x 3.63	60P41T 60P37T 80P28T	6	1300 Ft# 12 Springs	YES	Split Taper Bushing P
CH66	6.46 x 3.0	50P43T 60P37T 80P28T	6	1500 Ft# 12 Springs	YES	B5, C6, D4, E1 E4, H4, M4
CH92	9.0 x 2.27	60P48T 80P36T	8	3000 Ft# 16 Springs	YES	D4, E1, E4 M4, N4
CH921	9.0 x 4.27	60P48T 80P36T	8	3000 Ft# 16 Springs	YES	Split Taper Bushing Q

*Denotes Use of 1/2" Bolts



ALL DIMENSIONS IN INCHES

Quality

Parts



Inline Torque Limiters



- Steel construction for strength and stability
- Optional bore and shaft sizes
- Nickel plated hub to resist rusting to maintain constant torque
- Torque tubes are standard to eliminate over tightening the compression springs
- Adjustable torque by adding or removing spring assemblies
- Bronze bushings for longevity and dependability in the adapter and pressure plate

Explanation of Inline Torque Limiters Item Numbers

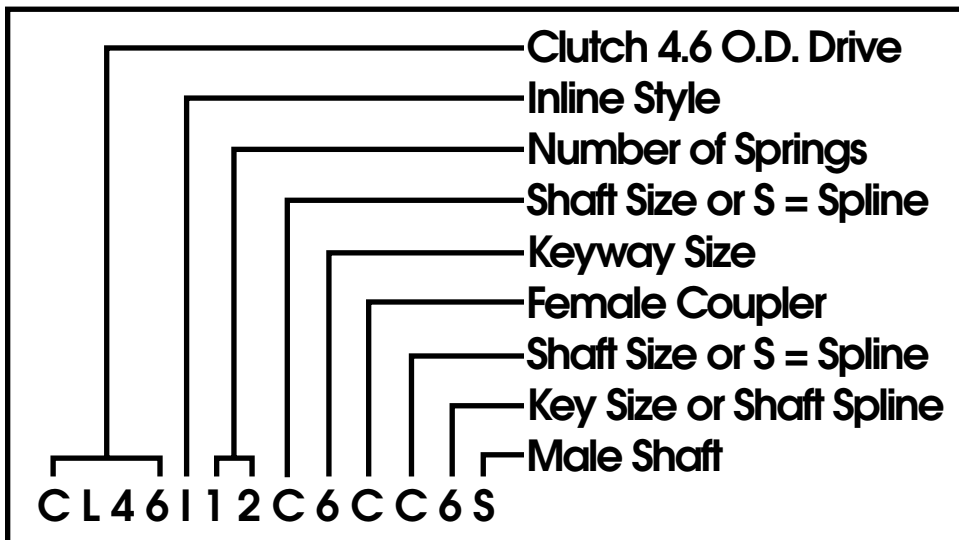


Figure 58A

KEYWAY SIZES

4 = 3/8"
 5 = 1/4"
 6 = 5/16"

BORE OR SHAFT SIZES

A = 1"
 B = 1-1/4"
 C = 1-3/8"
 N = 1-1/2"

Standard Female Sizes

B5, C6 and 540 PTO 6-Spline

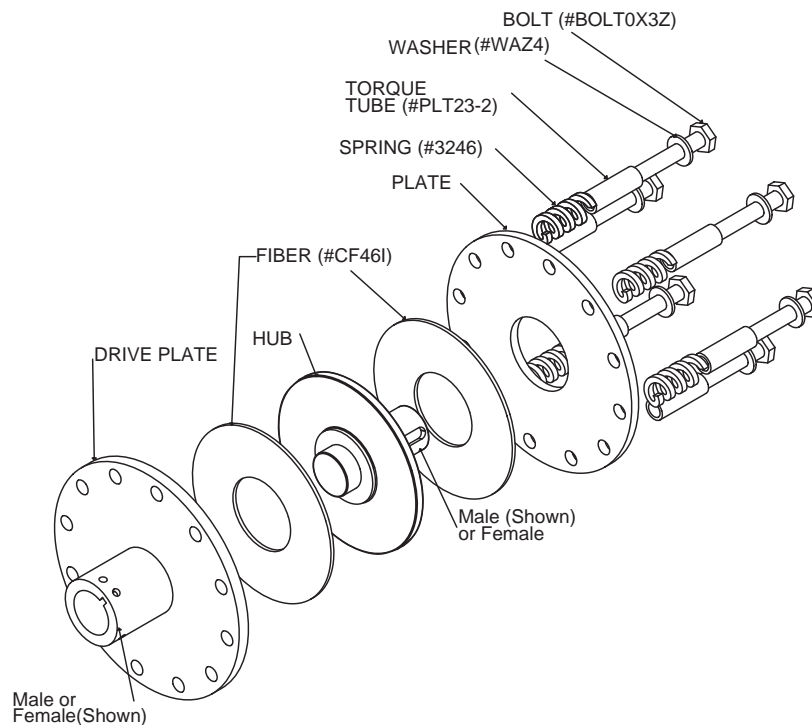
Standard Male Sizes

B5, B6, C6, N4 and 540 PTO 6-Spline



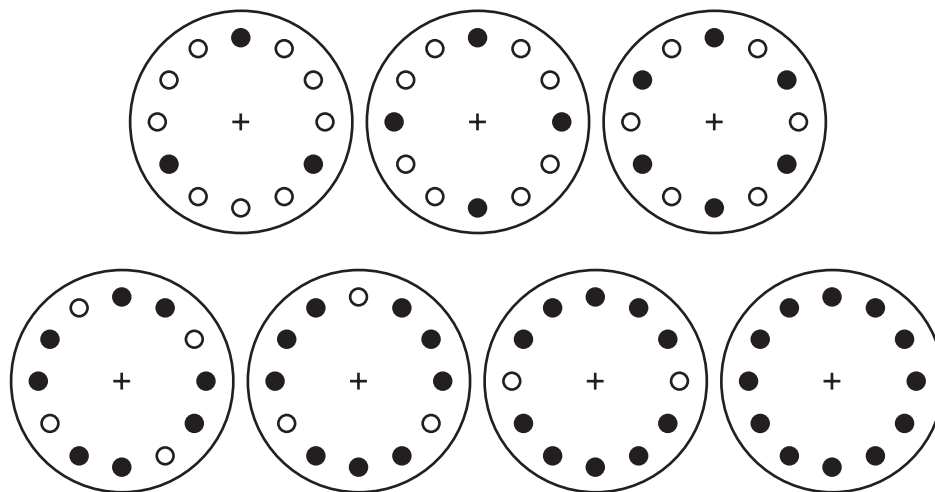
Inline Torque Limiters

Exploded view of the Black Ace® CL46I style inline torque limiter.



Please note: Torque tubes allow the springs to be tensioned equally by drawing the bolt down to a positive stop on the torque tube.

Torque is adjusted by adding or removing springs and torque tube assemblies.
Spring pattern is designated by darkened circles.



TORQUE CHART

# of Springs	FT.LBS Torque
3	170
4	210
6	250
8	295
9	335
10	375
12	500



To Order Black Ace® Parts

Please use our fax #
218-478-3622
or call
800-423-3918.

We encourage fax orders.

Please do not email orders at this time. We are currently developing an online ordering system, and we will contact you when it is available.

When ordering custom-made-to-order parts we require that you sign a print or sketch to ensure that you get the correct parts.

Your order will be acknowledged by fax upon request.

For your convenience you may copy and use the order form on the back side of this page.

Thank you in advance for your order.

