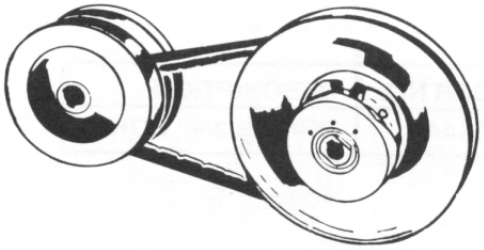
COMET INDUSTRIES

30 SERIES TORQUE CONVERTER SYSTEM

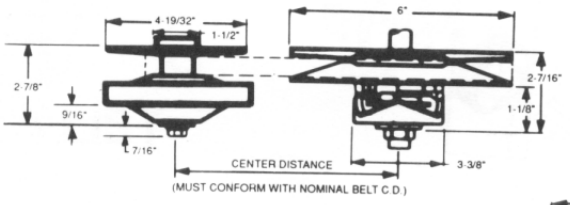
COMET TORQUE CONVERTERS FOR ALL ENGINES THRU 8 H.P.,

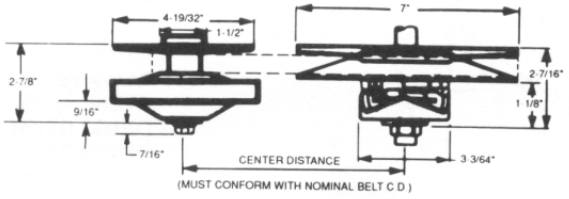


MODEL 30 SERIES (ASYMMETRICAL)

GENERAL INFORMATION: The model 30 uses a 3/4" top width belt. The belt mass in No. 30 is desirable in applications requiring extra rugged driving ability, such as boonie bikes, go-karts, mini-bikes, LTV's, grounds maintenance appliances, materials handling devices and industrial equipment. The Model 30 Series is mounted with both stationary sheaves inboard. Mounting can be on a flat, fixed plane, requiring only minimum displacement — (See Displacement Dimensions Below).

SYSTEM: MODEL 30 SERIES
TYPE: ASYMMETRICAL (20 1/2°)
RECOMMENDED H.P.:
MAX: 8 H.P. **2 CYCLE**
MAX: 8 H.P. **4 CYCLE**
DRIVE BELT: 3/4" TOP WIDTH ASYMMETRICAL TYPE
DRIVE CLUTCH BORE SIZES:
3/4", 1" (3/16-1/4 KEY)
DRIVE CLUTCH ENGAGEMENT RANGE:
MIN: 1200 RPM **MAX:** 3100 RPM
DRIVEN UNIT DIA. 6" or 7": SEE PAGE 4
5/8" or 3/4" BORE (3/16 KEY)





30C & 31D6 REDUCTION RATIO

HIGH SPEED	LOW SPEED
.90	2.68
OVERALL SPEED RATIO 2.98	

30C & 31D7 REDUCTION RATIO

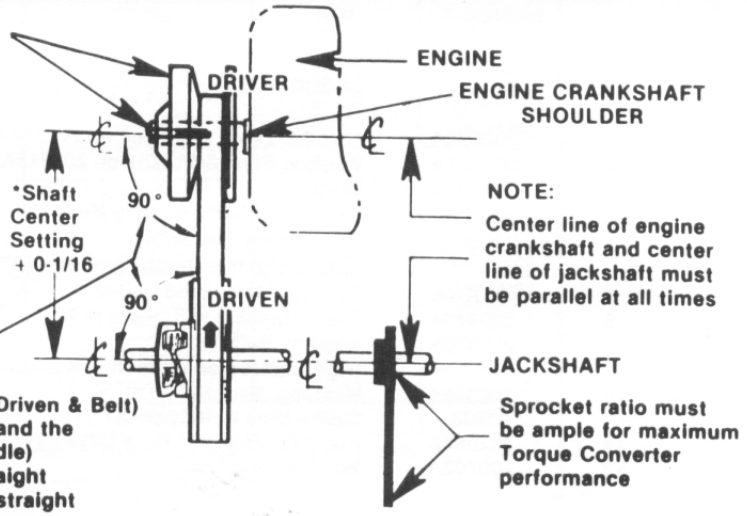
HIGH SPEED	LOW SPEED
1.12	3.13
OVERALL SPEED RATIO 2.79	

NOTE: DIMENSIONS AND RATIOS ARE IN ACCORDANCE WITH ENGINEERINGS DRAWING CURRENT WITH THE DATE SHOWN ON THIS ITEM. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL 30 SYSTEM INSTALLATION INSTRUCTIONS

IMPORTANT!
Torque Converter DRIVE UNIT MUST NOT FLOAT on engine crankshaft. It must be bolted tight against engine crankshaft shoulder. Recommended Torque for bolt: 20 lbs. Max.

2 ½ ° angle (flat side) of belt must be against the 2 ½ ° angle pulley flange (Next to engine)



NOTE:
Center line of engine crankshaft and center line of jackshaft must be parallel at all times

Sprocket ratio must be ample for maximum Torque Converter performance

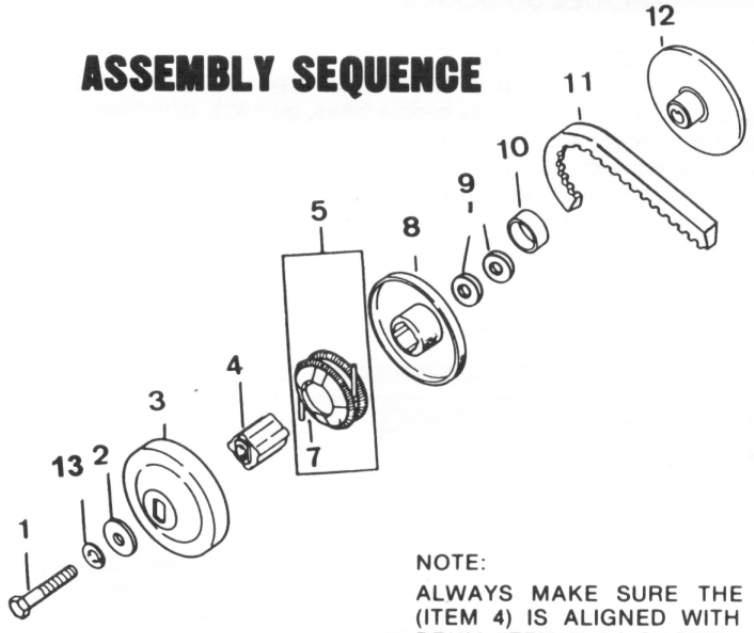
NOTE!
With Torque Converter (Driver-Driven & Belt) mounted on parallel shafts — and the system in the low (Neutral or Idle) Position the belt should be straight in the sheaves. The belt when straight in the sheaves should also be square to the engine crankshaft and jackshaft

COMET INDUSTRIES

30 SERIES

3/4 BORE DRIVER UNITS

ASSEMBLY SEQUENCE

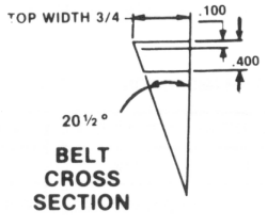


ORDER NO.	DESCRIPTION
203814A	DRIVER 3/4" BORE

APPROXIMATE ENGAGEMENT Specifications for the Comet Clutch Driver were determined by reading the actual r.p.m. via strobe and tachometer at the moment of drive contact; i.e. when the Drive Clutch has engaged the belt with adequate ability to move the driven unit from a stationary position, under load. Throttle action used for determining these readings is a slow, steady, increase of engine r.p.m.s to the point of engagement. A number of readings are made to determine the norm of the engagement cycle.

NOTE:

ALWAYS MAKE SURE THE DRIVER HUB (ITEM 4) IS ALIGNED WITH THE OUTSIDE DRUM (ITEM 3) AS SHOWN, AND TORQUED DOWN TIGHTLY.



BELT CROSS SECTION

REFERENCE ONLY

PARTS LIST

ITEM NO.	ORDER NO.	DESCRIPTION	QTY REQ.
1	202092A	Bolt 3/8-24 x 1 2/2" (Use on 203814A)	1
2	200841A	Washer, Steel 3/8" I.D. - on 203814A	1
3	202090A	Drum	1
4	200376A	Hub Driver 3/4" I.D. (3/16 Key)	1
5	200344A	Shoe Driver Assembly (Zinc weights engagement 2200 RPM)	1
7	11188A	Spring, Garter Blue	2
8	200410A	Face, Movable w/Splined Hub	1
9	200836A	Washer, Belt Spacer (Not required on units manufactured after March 1994)	2
10	200349A	Bushing, Bronze	1
11	TC994	Series (See Belt Specs.)	
12	202066A	Fixed Sheave 3/4" Bore (3/16 Key)	1
13	200702A	Washer, Spg Loc	1

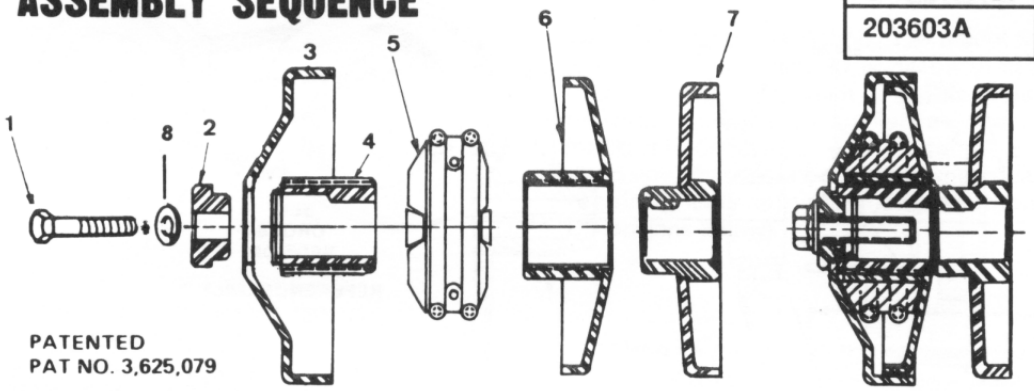
COMET INDUSTRIES

30 SERIES

ONE INCH BORE DRIVER UNIT

ORDER NO.	DESCRIPTION
203603A	1" BORE DRIVER

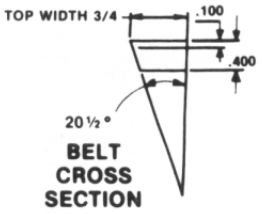
ASSEMBLY SEQUENCE



PATENTED
PAT NO. 3,625,079

PARTS LIST

ITEM NO.	ORDER NO.	DESCRIPTION	QTY. REQ.
1	202092A	Bolt, 3/8-24 x 1 1/2"	1
2	202429A	Washer, Pilot	1
3	202427A	Drum	1
4	203641A	Sleeve, Splined (1/4 Key)	1
5	200344A	Shoe Ass'y Driver	1
6	203515A	Sheave, Movable w/Splined Hub	1
7	206633A	Sheave, Fixed & Hub (1/4 Key)	1
8	200702A	Washer, Spg Loc	1



BELT CROSS SECTION

REFERENCE ONLY

RECOMMENDED BELT SPECIFICATIONS

30 Series: • 3/4" Top Width • 20-1/2° Asymmetrical
(30 & 31D-6" & 31D-7") • .40 Thick • Kevlar Type

COMET Order No.	C.D. SETTING		Belt O.C.	Fractional Equiv.
	6" Dia. Driven	7" Dia. Driven		
203589A	6 5/8-6 11/16	No Fit	27.03	27 1/32
217248A	6 15/16-7	No Fit	27.36	27 23/64
203590A	7 1/8-7 3/16	6 1/4-6 5/16	28.32	28 21/64
203591A	7 9/16-7 5/8	6 13/16-6 7/8	29.28	29 9/32
203592A	8 3/16-8 1/4	7 5/16-7 3/8	30.25	30 1/4
203593A	8 11/16-8 3/4	7 3/4-7 13/16	31.23	31 15/64
203594A	9 3/16-9 1/4	8 5/16-8 3/8	32.20	32 13/64
203595A	9 5/8-9 11/16	8 3/4-8 13/16	33.18	33 11/64
203596A	9 15/16-10	9 3/16-9 1/4	33.78	33 25/32
203597A	10 3/4-10 13/16	9 13/16-9 7/8	35.14	35 9/64
203598A	11 11/16-11 3/4	10 15/16-10 15/16	37.11	37 7/64
203599A	13 1/16-13 1/8	12 1/8-12 3/16	39.77	39 25/32

*Always run the 2-1/2° side nearest the engine (the 2-1/2° side appears nearly flat and must be mated to the like appearing sheave half).

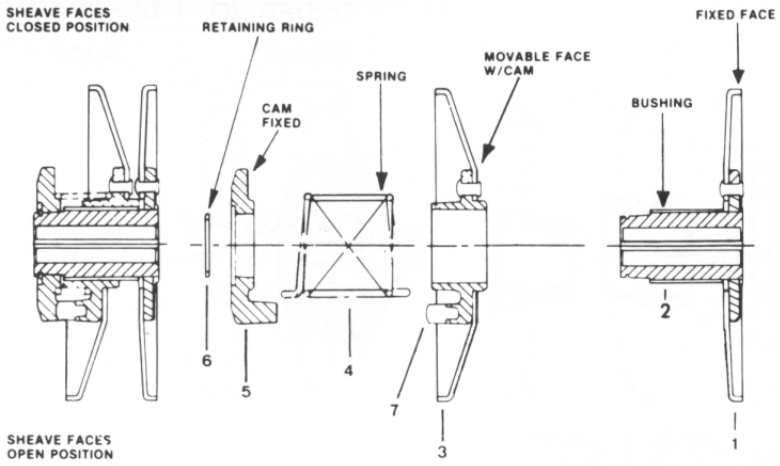
COMET INDUSTRIES
358 N.W. F Street Richmond, IN 47374-2297
(765) 966-8161 Fax: (765) 935-2346
(800) 999-8161 http://www.hoffcocomet.com

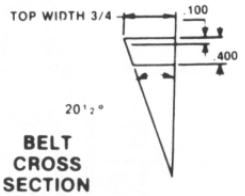
30 SERIES DRIVEN UNITS

3/4" TOP WIDTH BELT

ORDER NO.	DESCRIPTION
217610A	5/8 BORE - 6" DIA. DRIVEN
217779A	3/4 BORE - 6" DIA. DRIVEN
217611A	5/8 BORE - 7" DIA. DRIVEN
217778A	3/4 BORE - 7" DIA. DRIVEN

ASSEMBLY SEQUENCE & PARTS LIST





BELT CROSS SECTION

REFERENCE ONLY

PARTS LIST (6" DRIVEN UNITS) 31D6

ITEM NO.	ORDER NO.	DESCRIPTION	QTY REQ.
1	217612A	Face, Fixed w/Post 5/8 Bore (3/16 Keyway) W/Ret. Ring	1
1	217769A	Face, Fixed w/Post 3/4 Bore (3/16 Keyway) W/Ret. Ring	1
2	203942A	Bushing	1
3	215647A	Face, Movable w/Cam	1
4	215699A	Spring, Coil, Green	1
5	215650A	Cam, Fixed 20°	1
6	204714A	Ring, Retaining	1
7	204332A	Button, Insert	6

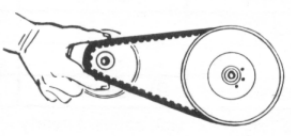
PARTS LIST (7" DRIVEN UNITS) 31D7

ITEM NO.	ORDER NO.	DESCRIPTION	QTY. REQ.
1	217613A	Face, Fixed w/Post 5/8 Bore (3/16 Keyway) W/Ret. Ring	1
1	217768A	Face, Fixed w/Post 3/4 Bore (3/16 Keyway) W/Ret. Ring	1
2	203942A	Bushing	1
3	215648A	Face, Movable w/Cam	1
4	215699A	Spring, Coil, Green	1
5	215650A	Cam, Fixed 20°	1
6	204714A	Ring, Retaining	1
7	204332A	Button, Insert	6

WARNING! DO NOT RUN TIGHT BELT

TIPS FOR PROPER BELT ADJUSTMENT USING 6" OR 7" DRIVEN UNITS

1. Select belt for nearest approx. shaft setting.
2. Check belt tension. Belt should be at its highest point in the driven pulley flanges. Remove outer half of driver clutch. Squeeze belt down and pull forward as shown. Position engine so that 1/8" to 3/16" of clearance is provided around clutch bushing/ hub.



ADJUSTING THE SPRING TENSION OF THE DRIVEN UNIT

NOTE: By increasing the spring tension of the torque sensing system . . . the power ratio of the system (Driver and Driven) can be held longer at higher engine r.p.m.'s before it is overcome by the clutch driver.

To shorten the time required for the driven member to attain it's speed ratio, DECREASE the amount of spring tension of the torque sensing cams. This will allow the r.p.m. of the drive clutch to overcome the power ratio of the driven unit at a faster rate in a lower r.p.m. range.

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