

## Our Mission...

At Tiger Quick Change, we have combined years of experience and cutting edge technology to design the highest quality strength to weight ratio rear end possible.

The design engineers worked with major seal and bearing manufacturers to develop a kit to reduce horsepower robbing friction. All of these efforts are made to give our customers the edge on the race track!



## Tiger Quick Change

is located in Mt. Ulla, North Carolina, just outside Mooresville, Race City USA.

#### ORDER POLICY

- 👋 Order by part number.
- Tiger will NOT be responsible for incorrect orders that are placed without part numbers.
- Please specify shipping instructions on all orders.



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### **CLOSED TUBE REAR ENDS**



## RACE READY



At Tiger, every rear end that leaves our shop is "Race Ready". Our rear ends come standard with:

Aluminum 6 Rib Bells
HD Gear Cover with Bearings
Heat Treated Jackshaft
Pinion Nose Roller Bearings
Posi-Lock Nut Assembly
Viton Yoke Seal
4:86 Ring & Pinion

## Reducing power loss through the driveline is all part of putting together the total winning package!

#### COMPLETE REAR ENDS

TG-2000	Complete Tiger Standard Assembly (Aluminum Center & Bells)
TG-2010	Complete Tiger Low Drag Assembly (Aluminum Center & Bells)
TG-5002	Complete Tiger / Bert Magnesium Rear With Bert Magnesium Bells
TG-M2000	Complete Tiger Standard Assembly (Magnesium Center-Aluminum Bells)
TG-M2010	Complete Tiger Low Drag Assembly (Magnesium Center-Aluminum Bells)
TG-M2012	Complete Tiger Low Drag Assembly (Magnesium Center-Magnesium Bells)

#### **DIFFERENTIAL OPTIONS**

TG-2902	Exchange / Diamond Track Differential
TG-2906	Exchange / Gleason Differential
TG-2915	Exchange / Bert 33/31 Spline Lite Weight Spool
TG-2921	Exchange / Standard Aluminum Locker
TG-2921L	Exchange / Standard Aluminum Locker With Left Side Lockup
TG-2939	Exchange / Light Weight Aluminum Locker
TG-2939L	Exchange / Light Weight Aluminum Locker With Left Side Lockup
TG-2940	Exchange / Ultra Light Weight Spool

## **EXCHANGE OPTIONS**



#### **CENTER OPTIONS**

TG-2904	Exchange / Gundrilled Hex Drive Jackshaft-Heat Treated (For Pump Option)
TG-2922	Exchange / Gundrilled Jackshaft-Heat Treated
TG-2923	Exchange / 4.12 Ring & Pinion
TG-2924	Exchange / 1310 Drive Yoke With Pully
TG-2925	Exchange / 1350 Drive Yoke
TG-2926	Exchange / 1350 Drive Yoke With Pully
TG-2910	REM Polish Ring & Pinion
TG-2936	Thermal Dispersant Coating TG-2040
TG-2937	REM Polish Lower Jackshaft (Shown With Optional
TG-2912	EDM Ring Gear
TG-2040	Rear Cover Pump Option With Cooler And Lines (For Pinion)
TG-2089	Rear Cover Pump Option With Cooler And Lines (For Jackshaft)

#### TUBE OPTIONS

TG-2930	Exchange / 2 1/2" GN Steel Tubes (Straight)		
TG-2931	Exchange / 2" GN Steel Tubes (Straight)		
TG-2932	Exchange / Wide 5 Chrome Moly Tubes (Straight)		
TG-2933	Exchange / 2 1/2" GN Chrome Moly Tubes (Straight)		
TG-2934	Exchange / 2" GN Chrome Moly Tubes (Straight)		
TG-29 <b>3</b> 5	Exchange / Aluminum Wide 5 Tubes With Steel Snouts (Straight)		
TG-2938	Exchange / 2" GN Chrome Moly Tubes (2.5 Degree Camber)		
TG-2941	Exchange / 2 1/2" GN Steel . 219 Wall Tubes (Straight)		
TG-2943	Exchange / 2" GN Steel Tubes (2.5 Degree Camber)		
TG-2944	Exchange / 16 Bolt Steel Tubes		
TG-2945*	Exchange / Wide 5 Chrome Moly Tubes (.5 Degree - 1.5 Degree Camber)		
TG-2946*	Exchange / One Wide 5 Steel Tube (.5 Degree - 1.5 Degree Camber)		
TG-2947*	Exchange / 2 1/2" GN Chrome Moly Tubes (.5 Degree - 2.5 Degree Camber)		
TG-2948	Exchange / 2 1/2" GN Steel Tubes (2.0 Degree Camber)		
TG-2949	Exchange / One Piece Aluminum Tubes		
TG-2950	Exchange / 16 Bolt Chrome Moly Tubes		
TG-2954*	Exchange / Wide 5 Steel Tubes (.5 Degree - 1.5 Degree Camber)		
TG-2958	Exchange / 2 1/2" GN Steel Tubes (2.25 Degree Camber)		
TG-2959	Exchange / 2 1/2" GN Steel Tubes (2.5 Degree Camber)		
TG-2960	Exchange 16 Bolt Aluminum Tubes (Black)		

<sup>\*</sup> Specify Camber When Ordering



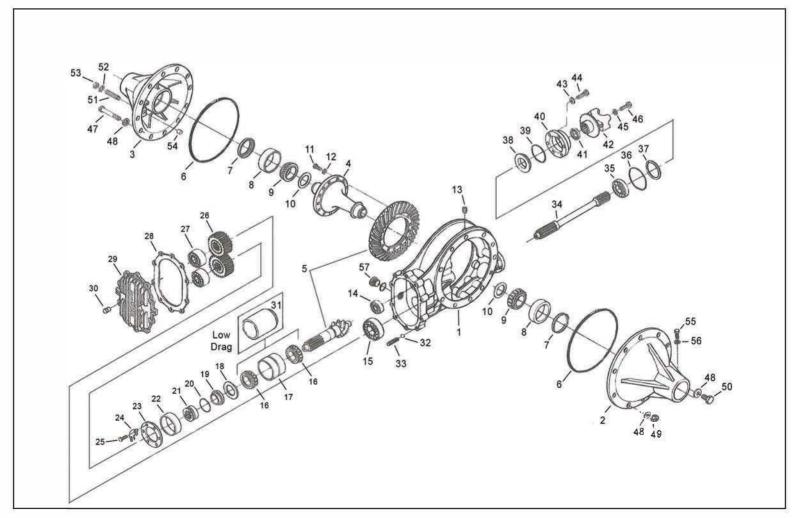
## TIGER REAR END

ITEM NO.	PART NO.	DESCRIPTION
1	TG-2101	Aluminum Sprint Center Section
2	TG-2201	Aluminum 6 Rib Right Side Bell
3	TG-2202	Aluminum 6 Rib Left Side Bell
4	TG-2401	Aluminum 31 Spline Spool
5	TG-2601	4.86 Ring & Pinion (Standard)
6	TG-2203	O-Ring (6 Rib)
7	TG-2204	Low Drag Side Bell Seal (Locker Seal)
8	TG-2206	Side Bell Bearing Race
9	TG-2406	Carrier Bearing (Differentials & Spools)
10	TG-2408	Shim Kit
11	TG-2055	Ring Gear Bolts (Threaded Ring Gear)
12	TG-2054	Ring Gear Bolts (Thru Bolts)
13	TG-2214	3/8 Square Head Pipe Plug
14	TG-2606	Pinion Nose Roller Bearing
15	TG-2501	Lower Shaft Shielded Ball Bearings
<b>1</b> 6	TG-2610	Pinion Shaft Bearing Tapered Cone
17	TG-2611	Pinion Shaft Bearing Cup
18	TG-2612	Pinion Bearing Washer
19	TG-2613	Posi Lock Nut (Right Hand)
20	TG-2617	Posi Lock O-Ring
21	TG-2618	Posi Lock Retainer
22	TG-2619	Pinion Retaining Ring Spacer
23	TG-2620	Pinion Retaining Plate
24	TG-2622	Retaining Plate Locking Tab
25	TG-2621	3/8-16 x 1 Retaining Plate Bolts
26	TG-SET+Set #	Gear Sets
27	TG-2302	Ball Bearing (Rear Cover)
28	TG-2313	Rear Cover G <b>as</b> ket
29	TG-2303	Gear Cover Without Bearings
30	TG-2075	Steel High Nut
31	TG-26 <b>07</b>	Low Drag Pinion Bearing
32	TG-2308	5/16 Diameter Steel Balls
33	TG-2307	Gear Cover Studs 3/8-16 x 1.5
34	TG-2503	Lower Heat Tr <b>ea</b> ted Jackshaft
35	TG-2504	Lower Shaft Front Bearing
36	TG-2701	Outer Seal Plate O-Ring
37	TG-2702	Seal Plate Snap Ring
38	TG-2704	Viton Yoke Seal
39	TG-2713	Inner Seal Plate O-Ring

## REAR END EXPLODED VIEW



ITEM NO.	PART NO.	DESCRIPTION
40	TG-2705	Seal Plate Aluminum
41	TG-2708	Yoke Spacer
42	TG-2709	Drive Yoke 1310
43	TG-2706	3/8 Flat Washer
44	TG-2707	3/8-16 x1.25 Seal Plate Bolts
45	TG-2711	Drive Yoke Retaining Washer
46	TG-2712	Drive Yoke Bolt 3/8-24x1.25
47	TG-2207	Side Bell Thrubolt 7/16-20x5 1/2
48	TG-2209	Side Bell Thrubolt SAE Flat Washer 7/16
49	TG-2210	Side Bell Thrubolt 7/16-20 Flanged Lock Nut
50	TG-2208	Side Bell Bolt 7/16-14 1.25
51	TG-2624	1/2-13 Adjusting Screw
52	TG-2626	Aluminum Flat Washer
53	TG-2627	1/2-1/3 Jam Nut
54	TG-2628	Thrust Block
55	TG-2211	Side Bell Tube Bolt 3/8-24x1
56	TG-2213	3/8 Flat Washer
57	TG-2102	Inspection Plug With O-Ring



### TIGER REAR END KITS



#### STANDARD KIT:

- Aluminum 6 Rib Bells
- Aluminum Spool
- Standard Ring and Pinion Bearing
- Heat Treated Lower Jackshaft
- Standard Carrier and Yoke Seals
- HD Rear Cover with Bearings
- Posi Lock Nut Assembly
- Pinion Nose Roller Bearing
- 4:86 Ring and Pinion

#### **LOW DRAG KIT:**

- Aluminum 6 Rib Bells
- Aluminum Spool
- Low Drag Pinion Bearing
- Low Drag Yoke Seals
- Low Drag Carrier Seals
- Heat Treated Lower Jackshaft
- HD Rear Cover with Bearings
- Posi Lock Nut Assembly
- Pinion Nose Roller Bearing
- # 4:86 Polished Ring and Pinion

## QUICK CHANGE REAR END OPTIONS:

- EDM Ring Gear
- Polished Ring and Pinion
- Aluminum Standard Locker
- Aluminum Light Weight Locker
- Ultra Light Weight Spools
- Gundrilled Lower Shaft
- 4:12 Ring and Pinion
- Diamond Track
- Gleason
- Thermal Coating TG-2936
- Aluminum Tubes

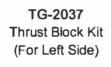




## **ALUMINUM AND MAGNESIUM BELLS**

PART NO.	OESCRIFTION
TG-2201	Aluminum 6 Rib / Right Side Bell
TG-2202	Aluminum 6 Rib / Left Side Bell
TG-2201BA	Bert Aluminum Right Side Bell (For Aluminum Smart Tubes)
TG-2202BA	Bert Aluminum Left Side Bell (For Aluminum Smart Tubes)
TG-2216	Bell Inspection Plug With O-Ring
TG-2406	Side Bell Inner Bearing Race
TG-2203	6 Rib Side Bell O-Ring
TG-2037	Complete Thrust Block Kit For Left Side Bell
TG-2219	Complete Side Bell Bolt Kit
TG-2217	8 Rib Side Bell O-Ring
TG-2204	Low Drag Locker Seals
TG-2226	Aluminum 8 Rib / Right Side Bell
TG-2227	Aluminum 8 Rib / Left Side Bell
TG-M2226	Magnesium 8 Rib / Right Side Bell
TG-M2227	Magnesium 8 Rib / Left Side Bell









TG-2216 Inspection Plug With O-Ring





TG-2204 Low Drag Locker Seal



TG-2203

TG-2217 8 Rib Side Bell O-Ring

TG-2400

TG-2431



## Lockers & Differentials

#### LOCKERS AND TORQUE SENSING DIFFERENTIALS

TG-2400	31 Spline Steel Gleason Differential		100
TG-2403	31 Spline Aluminum QC Locker (Standard)		4
TG-2403L	31 Spline Aluminum QC Locker With Left Side Lock Up		
TG-2413	31 Spline Black Gold Differential	TG-24	129
TG-2429	31 Spline Aluminum Light Weight QC Locker		
TG-2429L	31 Spline Aluminum Light Weight QC Locker With Left Si	ide Lock Up	
TG-2431	31 Spline Diamond Track Differential		

#### **LOCKER PARTS**

LUCKER P		10-2401	
TG-2204	Low Drag Locker Seal		
TG-2404	15 Tooth Locker Internal Assy (Fits Light Weig	ght Or Standard Lockers)	
TG-2404L	15 Tooth Locker Internal Assy With Left Side	Lock Up (Fits LW Or STD Lockers)	
TG-2433	Orange Spring (55 lbs.)		
TG-2432	Blue Spring (65 lbs.)	TG-2405	
TG-2405	Yellow Spring (75 lbs.)	Yellow Spring	
TG-2430	Purple Spring (88 lbs.)		
TG-2437	White Spring (100 lbs.)		
TG-2409*	Standard Aluminum Locker Housing		
TG-2410*	Standard Aluminum Locker Cap	TG-2430	
TG-2414*	Lightweight Aluminum Locker Housing	Purple Spring	
TG-2415*	Lightweight Aluminum Locker Cap		
TG-2426	Left Side Lock Up Plate for Locker	ST.	
TG-2438	Snap Ring for Standard and Light Weight Loc	ker TG-2426	
TG-2425	Spacer Ring Light Weight Locker	Left Side	
TC 2427	Spacer for Standard Locker	Lock Up Plate	





Spacer for Standard Locker

368A Carrier Bearings (REM Polished)

368S Carrier Bearings (REM Polished)

TG-2204 Low Drag Locker Seal

TG-2406RP TG-2407RP Carrier Bearings





\* Must be sold as a set

TG-2404 Locker Internal Assembly

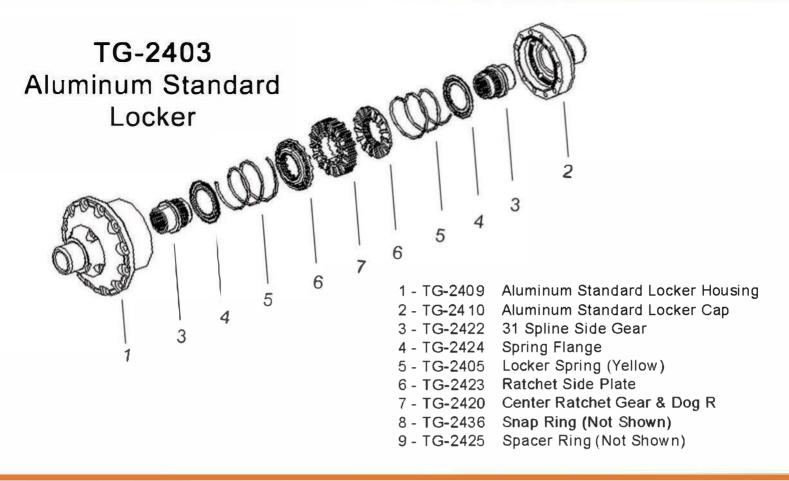
TG-2427

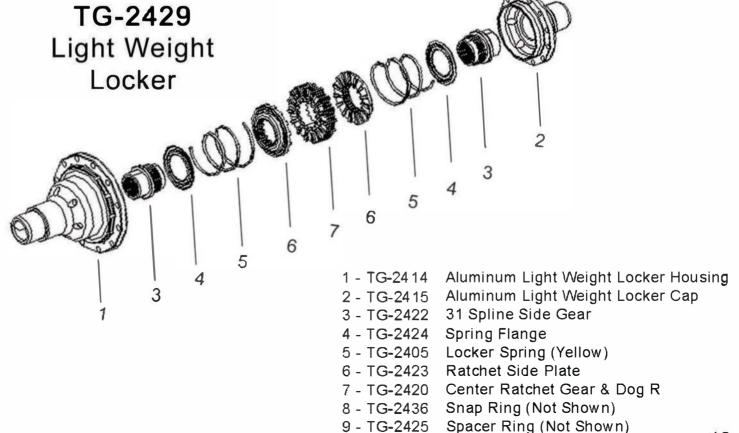
TG-2406RP

TG-2407RP

### EXPLODED LOCKER VIEW









## SPOOLS

#### PART NO. DESCRIPTION

TG-2401	31 Spline Aluminum Spool (Standard)
TG-2402	31/33 Spline Bert Aluminum Spool (Light Weight)
TG-2428	31 Spline Ultra Light Weight Spool
TG-2401S	31 Spline Aluminum Spool With 2.030 Bearing Diameter







## SEALS

PART	DECARIBION
	DESCRIPTION

	DECOMPTION
TG-2810	Low Drag Hub Seal (Fits Howe)
TG-2816	Low Drag Hub Seal (Fits Wilwood)
TG-2204	Low Drag Locker Seals
TG-2703	Low Drag Yoke Seals
TG-2704	Viton Yoke Seal
TG-2205	Standard Locker Seal
TG-2811	Rear Hub Seal
<b>T</b> G-2817	Super Speedway Hub Seal
TG-2818	Short Track Low Drag Seal

TG-2204 Low Drag Locker Seal

TG-2818 Short Track Low Drag Seal TG-2703 Low Drag Yoke Seal



TG-2811 Rear Hub

Seal

TG-2810 Low Drag Hub Seal



TG-2817 Super Speedway Hub Seal TG-2205 Standard Locker Seal



## COMPLETE LOW DRAG BEARING AND SEAL KIT



PART NO.	DESCRIPTION
TG-2203	(2) 6-Rib Side Bell O-Rings
TG-2204	(2) Low Drag Carrier Seals
TG-2406RP	Carrier Bearings (Polished)
TG-2302	Rear Cover Bearings
TG-2313	Rear Cover Gasket
TG-2408	Shim Kit
TG-2501	Rear Lower Shaft Bearing
TG-2504	Front Lower Shaft Bearing
TG-2606	Pinion Nose Roller Bearing
TG-2607	Low Drag Pinion Shaft Bearing
TG-2701	Seal Plate O-Ring
TG-2703	Low Drag Yoke Seal

#### RING GEAR & PINION & LOW DRAG BEARING & SEAL KITS

KIT NO.	DESCRIPTION
TG-2221	4.86 Light Weight Ring Gear & Pinion, Includes TG-2023
TG-2222	4.12 Light Weight Ring Gear & Pinion, Includes TG-2023

THE PARTY OF



## RING AND PINIONS

PART NO.	DESCRIPTION	age
TG-2042	Loaded 4.86 Ring & Pinion Standard (Timken Bearing)	MANUAL TO SERVICE STREET
TG-2043	Loaded 4.86 Ring & Pinion Low Drag (Angular Contact Bearing)	TG-2049 Loaded Ring
TG-2048	Loaded 4.12 Ring & Pinion Standard (Timken Bearing)	& Pinion
TG-2049	Loaded 4.12 Ring & Pinion Low Drag (Angular Contact Bearing)	
TG-2602	4.12 TIGER Ring & Pinion	
TG-2601	4.86 TIGER Ring & Pinion	

## COMPONENT PARTS

PART NO.	DESCRIPTION	
TG-2919	Ultra Light Weight Ring Gear	
TG-2912	EDM Process To Ring Gears	
TG-2900	Machine Hex In Customer Pinion For Pump Drive	
TG-2952	Cryogenic Gear Treatment	
TG-2606	Pinion Nose Roller Bearing	
TG-2607	Low Drag Pinion Shaft Bearing (Angular Contact)	TG-2919 Ultra Light Weight
TG-2610	Standard Pinion Shaft Bearing Cone (Timken)	Ring Gear
TG-2611	Standard Pinion Shaft Bearing Cup (Timken)	
TG-2612	Pinion Bearing Washer	
TG-2608	Low Drag Flanged Pinion Shaft Bearing (Angular Co	ntact)
TG-2054	Ring Gear Thru Bolt Kit	
TG-2055	Threaded Ring Gear Bolt Kit	
TG-2056	Posi Lock Kit (Left Hand)	
TG-205 <b>7</b>	Posi Lock Kit (Right Hand)	

TG-2054 Ring Gear Thru Bolt Kit

> TG-2608 Low Drag Flanged Pinion Shaft Bearing





TG-2607 Low Drag Pinion Shaft Bearing

### HUBS, BEARINGS AND RACES



## HUBS, BEARINGS AND RACES

PART NO.	DESCRIPTION	
TG-3119	2 Piece Drive Flange For Cambered Tubes	DATE OF THE PARTY
TG-3011	Aluminum Adapter Cap For Drive Flange	
TG-3121	Wide 5 Cambered Drive Flange (5 Bolt Pattern)	
TG-3122	Wide 5 Cambered Drive Flange (8 Bolt Pattern)	NO CAN
TG-3124	Billet One Piece Hub	
TG-3125	Drive Flange	
TG-3003	Wide 5 Outer Bearing	
TG-3003P	Wide 5 Outer Bearing (Polished)	
TG-3004	Wide 5 Inner Bearing	TC 2424
TG-3004P	Wide 5 Inner Bearing (Polished)	TG-3124 Billet One
TG-3005	Wide 5 Outer Bearing Race	Piece Hub
TG-3005P	Wide 5 Outer Bearing Race (Polished)	
TG-3006	Wide 5 Inner Bearing Race	TO 0440
TG-3006P	Wide 5 Inner Bearing Race (Polished)	TG-3119 2 Piece Cambered
TG-3013	2 1/2" Grand National Timken Bearing Race	Drive Flange
TG-3013P	2 1/2" Grand National Timken Bearing Race (Polished)	
TG-3014	2 1/2" Grand National Timken Bearing	
TG-3014P	2 1/2" Grand National Timken Bearing (Polished)	County O



TG-3006P Wide 5 Inner Bearing Race (Polished) TG-3004P Wide 5 Inner Bearing (Polished)



TG-3003P Wide 5 Outer Bearing (Polished) TG-3005P Wide 5 Outer Bearing Race (Polished)





TG-3121 Wide 5 2 Piece Cambered Drive Flange (5 Bolt Pattern)

## WHEEL BEARING KITS

# TG-3028KP Wide 5 Tiger Bearing Set Polished TG-3031KPS Wide 5 Tiger Bearing Set Polished With Low Drag Seals TG-3029KTP Wide 5 Timken Bearing Set Polished TG-3030KTPS Wide 5 Timken Bearing Set Polished With Low Drag Seals TG-3032KT Timken Performance Hub Bearing Kit (One Hub) TG-3038 Timken Wheel Bearing Grease



TG-3032KT Timken Hub Bearing Kit (One Hub)



TG-3038 Timken Wheel Bearing Grease



## SUSPENSION

PART NO.	DESCRIPTION	CAMBER
TG-3015L	Truck Arm Pad (Left)	
TG-3015R	Truck Arm Pad (Right)	
TG-3116	Tie Bar (One Side)	
TG-3117	Tie Bar Kit (Complete)	
TG-3018	Aluminum Spacer	
TG-3019	Aluminum 16 Bolt Brake Bracket Adapter	
TG-3020	Wide 5 16 Bolt Brake Bracket	STRAIGHT
TG-3021	Wide 5 16 Bolt Brake Bracket	.5 DEGREE
TG-3022	Wide 5 16 Bolt Brake Bracket	1.0 DEGREE
TG-3023	Wide 5 16 Bolt Brake Bracket	1.5 DEGREE
TG-3020	5 on 5 16 Bolt Brake Bracket	STRAIGHT
TG-3024	5 on 5 16 Bolt Brake Bracket	.5 DEGREE
TG-3025	5 on 5 16 Bolt Brake Bracket	1.0 DEGREE
TG-3026	5 on 5 16 Bolt Brake Bracket	1.5 DEGREE
TG-3012	16 Bolt Brake Bracket Assembled	
TG-3016	GN Cambered Brake Bracket	
TG-3034	GM Style Weld On Brake Bracket	



TG-3016 GN Cambered Brake Bracket



TG-3020 (Straight)



TG-3012 16 Bolt Brake Bracket Assembled



TG-3015 L/R Truck Pads





TG-3117 (Complete) TG-3116 (One Side) Tie Bar Kit



## COMPLETE AXLE TUBE ASSEMBLY



Axle

#### Wide 5



DESCRIPTION	MATERIAL	CAMBER	P/N ASSY.	P/N SNOUT ONLY
Wide 5 Tube & Snout Assy	STEEL	STRAIGHT	TG-2060	TG-2849
Wide 5 Tube & Snout Assy	STEEL	.5 DEGREE	TG-2051	TG-2850
Wide 5 Tube & Snout Assy	STEEL	1.0 DEGREE	TG-2052	TG-2851
Wide 5 Tube & Snout Assy	STEEL	1.5 DEGREE	TG-2084	TG-2852
Wide 5 Tube & Snout Assy	CHROME MOLY	STRAIGHT	TG-2063	TG-2820
Wide 5 Tube & Snout Assy	CHROME MOLY	.5 DEGREE	TG-2053	TG-2821
Wide 5 Tube & Snout Assy	CHROME MOLY	1.0 DEGREE	TG-2085	TG-2822
Wide 5 Tube & Snout Assy	CHROME MOLY	1.5 DEGREE	TG-2086	TG-2823
Wide 5 Tube & Snout Assy w/Steel Snout	ALUMINUM	STRAIGHT	TG-2071	N/A
Wide 5 One Piece Tube & Snout Assy	ALUMINUM	STRAIGHT	TG-2073	N/A
Wide 5 Bert Aluminum Smart Tube	ALUMINUM	STRAIGHT	TG-2112	N/A
31 Spline Solid Axle	STEEL		TG-3002	
31 Spline Gundrilled Axle	STEEL		TG-3001	
Wide 5 16 Bolt Tube	ALUMINUM		TG-2121	
Wide 5/5 Tube	ALUMINUM		TG-2120	











## COMPLETE AXLE TUBE ASSEMBLY

2" GN 5 ON 5

TG-2069 Tube & Snout (2.5 Degree)



DESCRIPTION	MATERIAL	CAMBER	P/N A88Y.	P/N SNOUT ONLY
2" GN Tube & Snout Assy	STEEL	STRAIGHT	TG-2061	TG-2831
2" GN Tube & Snout Assy	STEEL	.5 DEGREE	TG-2093	TG-2832
2" GN Tube & Snout Assy	STEEL	1.0 DEGREE	TG-2104	TG-2833
2" GN Tube & Snout Assy	STEEL	1.5 DEGREE	TG-2105	TG-2834
2" GN Tube & Snout Assy	STEEL	2.0 DEGREE	TG-2106	TG-2835
2" GN Tube & Snout Assy	STEEL	2.5 DEGREE	TG-2069	TG-2836
2" GN Tube & Snout Assy	CHROME MOLY	STRAIGHT	TG-2064	TG-2825
2" GN Tube & Snout Assy	CHROME MOLY	.5 DEGREE	TG-2107	TG-2826
2" GN Tube & Snout Assy	CHROME MOLY	1.0 DEGREE	TG-2108	TG-2827
2" GN Tube & Snout Assy	CHROME MOLY	1.5 DEGREE	TG-2109	TG-2828
2" GN Tube & Snout Assy	CHROME MOLY	2.0 DEGREE	TG-2110	TG-2829
2" GN Tube & Snout Assy	CHROME MOLY	2.5 DEGREE	TG-2111	TG-2824

TG-3003P Wide 5 Outer Bearing (Polished)

TG-3005P Wide 5 Outer Bearing Race (Polished)



TG-3006P Wide 5 Inner Bearing Race (Polished)



TG-3004P Wide 5 Inner Bearing (Polished)

### 3" AXLE TUBES & SNOUTS



## COMPLETE AXLE TUBE ASSEMBLY

2 1/2" GN 5 ON 5

TG-2062R GN Tube & Snout (Straight)

#### TG-2098R GN Tube & Snout (2.5 Degree)





TG-3014 2 1/2" GN Bearing

2 1/2" GN Tube & Snout Assy (Right)

2 1/2" GN Tube & Snout Assy (Left)

2 1/2" GN Tube & Snout Assy (Right)

2 1/2" GN Tube & Snout Assy (Left)

TG-3013 2 1/2" GN Bearing Race TG-2807 Snout Lock Washer



**CHROME MOLY** 

CHROME MOLY

CHROME MOLY

CHROME MOLY

TG-2808 Snout Lock Nut

2.5 DEGREE

2.5 DEGREE

2.25 DEGREE TG-2083R

2.25 DEGREE TG-2083L

TG-2053R

TG-2053L



TG-2870R

TG-2870L

TG-2871R

TG-2871L



#### 2" GN 5 ON 5 BOLT ON SNOUTS

PART NO.	Description	Camber
TG-2853	2" GN 5 On 5 Bolt On Snouts	STRAIGHT
TG-2853BB	2" GN 5 On 5 Bolt On Snouts (For Tiger Brake Bracket)	STRAIGHT
TG-2854	2" GN 5 On 5 Bolt On Snouts	.5 DEGREE
TG-2854BB	2" GN 5 On 5 Bolt On Snouts (For Tiger Brake Bracket)	.5 DEGREE
TG-2855	2" GN 5 On 5 Bolt On Snouts	1.0 DEGREE
TG-2855BB	2" GN 5 On 5 Bolt On Snouts (For Tiger Brake Bracket)	1.0 DEGREE
TG-2856	2" GN 5 On 5 Bolt On Snouts	1.5 DEGREE
TG-2856BB	2" GN 5 On 5 Bolt On Snouts (For Tiger Brake Bracket)	1.5 DEGREE
TG-2857	2" GN 5 On 5 Bolt On Snouts	2.0 DEGREE
TG-2857BB	2" GN 5 On 5 Bolt On Snouts (For Tiger Brake Bracket)	2.0 DEGREE

#### **WIDE 5 BOLT ON SNOUTS**

PART NO.	DESCRIPTION	CAMBER
TG-2839	Wide 5 Bolt On Snouts	STRAIGHT
TG-2839BB	Wide 5 Bolt On Snouts (For Tiger Brake Bracket)	STRAIGHT
TG-2840	Wide 5 Bolt On Snouts - Heat Treated	STRAIGHT
TG-2841	Wide 5 Bolt On Snouts	.5 DEGREE
TG-2841BB	Wide 5 Bolt On Snouts (For Tiger Brake Bracket)	.5 DEGREE
TG-2842	Wide 5 Bolt On Snouts	1.0 DEGREE
TG-2842BB	Wide 5 Bolt On Snouts (For Tiger Brake Bracket)	1.0 DEGREE
TG-2843	Wide 5 Bolt On Snouts	1.5 DEGREE
TG-2843BB	Wide 5 Bolt On Snouts (For Tiger Brake Bracket)	1.5 DEGREE
TG-2845	16 Bolt Weld In Adaptor (For Steel Tubes)	
TG-2846	16 Bolt Weld In Adaptor (For Chrome Moly Tubes 120	) Wall)
TG-2848	Wide 5 Eight Bolt Collar For Seal	
TG-2848BB	Wide 5 Eight Bolt Collar For Seal (For Tiger Brake Bra	cket)
TG-2848OR	O-Ring For Collar (TG-2848 - TG-2848BB)	



TG-2843 1.5 Camber Wide 5 Bolt On Snout

--TG-2848

TG-3012 16 Bolt Tube (Shown With Optional Brake Bracket Assembly)

TG-2848BB-



TG-2845 (For Steel)
TG-2846 (For Chrome Moly)

These adapters can be used with any 8 bolt snout for more adjustability in camber and toe.



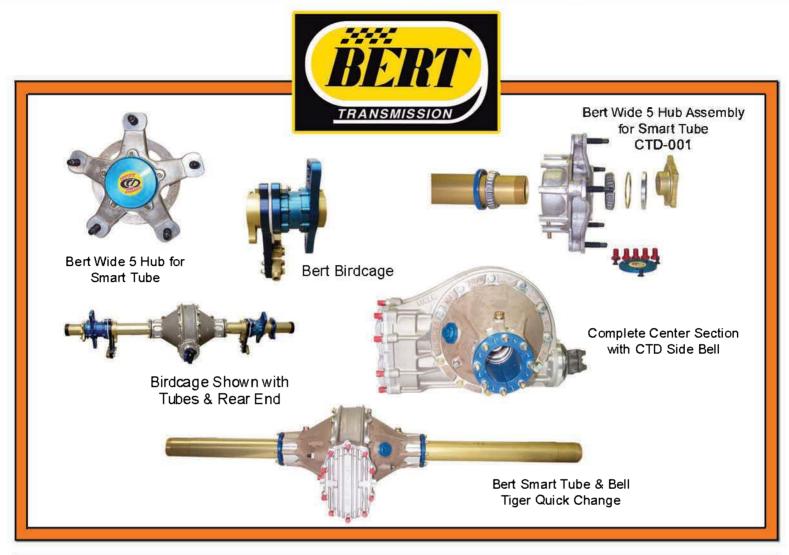
TG-2819
Wilwood Low Drag
Hub Seal (For Aluminum
Snouts Only)

TG-2066 - 16 Bolt Chrome Moly Tube

TG-2067 - 16 Bolt Steel Tube

## PARTS BY BERT & TIGER GEAR OIL









## 10" SPRINT & QUICK CHANGE CENTER SECTIONS

FART NO.	<b>DESCRIPTION</b>	
TG-2101	Aluminum 10" Sprint Center	
TG-M2101	Magnesium 10" Sprint Center	
TG-2021	Aluminum Standard 10" Center Section Kit	
TG-2022	Aluminum Low Drag 10" Center Section Kit	
TG-M20 <b>2</b> 1	Magnesium Standard 10" Center Section Kit	
TG-M2022	Magnesium Low Drag 10" Center Section Kit	

Optional Thermal Coating (Includes Thermal Coating of Center, Bells, Rear Cover

and Front Seal Plate)



TG-2101 Aluminum 10" Sprint Center



TG-2936

When mounting

on pinion,the pinion must be

machined for hex



TG-2046 (Pinion)
TG-2047 (Jackshaft)

Rear Cover With Bearings & Pump



## 10" SPRINT & QUICK CHANGE CENTER COMPONENTS

PART NO.	DESCRIPTION	
TG-2030	Front Seal Plate Assembly (Viton Seal) TG-2031	
TG-2031	Front Seal Plate Assembly (Low Drag Seal)  Seal Plate Assembly	
TG-2703	Low Drag Yoke Seal	
TG-2704	Viton Yoke Seal	
TG-2038	Magnesium HD Rear Cover With Bearings	
TG-2044	Aluminum HD Rear Cover With Bearings	TG-2703
TG-2046		Low Drag
TG-2047	Magnesium HD Rear Cover With Bearings & Pump (For Jackshaft)	Yoke Seal
TG-2039	Magnesium HD Cover With Bearings and Pump Mount Machined	
TG-2040	Rear Cover Pump Kit For Pinion (Includes Lines, Brackets, Cooler & Fittings)	
TG-2089	Rear Cover Pump Kit For Jackshaft (Includes Lines, Brackets, Cooler & Fittin	gs)
TG-2087	Rear Cover Pump Only (Jackshaft)	
TG-2088	Rear Cover Pump Only (Pinion)	
	Continued On No.	d Been

## CENTER SECTIONS COMPONENTS



## 10" SPRINT & QUICK CHANGE CENTER COMPONENTS

			10 金属	
PART NO.	<b>DESCRIPTION</b>		TG-2076	
TG-20 <b>7</b> 6	Rear Cover High Nut Ki	t (Steel)		
TG-2070	Rear Cover High Nut Ki	t (Aluminum)	600	
TG-2306	Rear Cover Stud Kit			
TG-2092	Replacement Hex Pinio	n For Pump	TG-2070	
TG-2094	Rear End Cooler			
TG-2502	Heat Treated Gun Drille		TG-2092	
TG-2506	Heat Treated Hex Drive		. 5 2 5 5	
TG-2503	Heat Treated Solid Jack			
TG-2102		Ring For Sprint Center		
TG-2302	Gear Cover Bearings Fo			
TG-2501	Rear Jackshaft Bearing			<b>*</b>
TG-2504	Front Jackshaft Bearing		TG-2622	
TG-26 <b>2</b> 0	Pinion Retaining Plate (			
TG-262 <b>2</b>	Pinion Retaining Plate	Tabs	A A	00
TG-2709	1310 Drive Yoke			
TG-2710	1310 Drive Yoke With P		TG-2709	
TG-2716	1350 Drive Yoke With P	ulley		
TG-2714	1350 Drive <b>Y</b> oke		Ara	
TG-2718	1350 Yoke Straps		5 24	
TG-271 <b>7</b>	1310 <b>Y</b> oke Straps		TG-2716	
TG-27 <b>2</b> 0	1310 U Bolts		ТС	G-2717
TG-2711	Drive Yoke Retaining W	asher With Bolt	TG	G-2718
TG-2708	Drive Yoke Spacer			
TG-209 <b>5</b>	# 6 Rear End Cooler Fit	ttings		
			TG-2708	
	TG-	2503 Het Dr	ve	
		*Dr		
TG-2502		He		
	No.	TG-2506	1	
	uch	aft		
3-2	2937   Option to Polish Any Jacksh			
	action to Polish	TG-2711	TG-2620	
	2937   Option			
TG	-2-			
Complete Kit-TG-204	O (Pinion)	TG-2712	-	
	99 (Jackshaft)	. 3 2 2		
	1100			
TG-2039	TG-2095 When mounting	on \		
10-2039	pinion, t	he st be		
	machined hex driv			
	A D CO	19 Ca 160 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
	U V CO		TG-210	02
•	TG-2087 TG-2088	(Shown Wit Optional Pum	.h .p &	
	1G-2088	Optional Pum Cooling Kit	:)	22



## Tools For Serious Racers!





## Tools For Serious Racersi





Sportsman



## SPLINE QUICK CHANGE GEAR CHART



Professional

GEAR SET	4,11 Ring & Pinion		4.86 Ring & Pinion	4.57 Ring & Pinion
NO.	(9-27 Teeth)	No. of	(7-34 Teeth)	
TG-SET: 7	Low High	Teeth	Low High	Low High
1	4.11 4.11	28/28	4.86 4.86	4.57 4.57
2	3.96 4.26	27/28	4.68 5.04	4.74 4.41
5	3.94 4.28	24/25	4.66 5.07	4.76 4.38
15	3.90 4.33	19/20	4.61 5.12	4.81 4.34
15K	3.85 4.38	15/16	4.56 5.18	4.88 4.28
26	3.83 4.41	27/29	4.52 5.24	4.91 4.25
6	3.78 4.46	23/25	4.47 5.28	4.96 4.21
25	3.74 4.52	20/22	4.42 5.35	5.03 4.16
12	3.68 4.58	26/29	4.36 5.42	5.09 4.10
7	3.63 4.64	23/26	4.30 5.49	5.16 4.04
7K	3.58 4.69	21/24	4.23 5.54	5.22 4.00
17	3.55 4.76	19/22	4.19 5.63	5.29 3.95
8K	3.49 4.83	17/20	4.13 5.71	5.37 3.89
8	3.48 4.85	22/26	4.11 5.75	5.40 3.86
19	3.45 4.89	21/25	4.08 5.78	5.44 3.84
9K	3.42 4.93	25/30	4.05 5.83	5.48 3.81
9	3.39 4.97	19/23	4.01 5.88	5.53 3.77
11	3.35 5.04	22/27	3.96 5.97	5.61 3.72
3	3.31 5.10	25/31	3.92 6.03	5.67 3.68
13	3.29 5.14	20/25	3.89 6.08	5.71 3.65
18	3.25 5.19	19/24	3.85 6.13	5.77 3.62
4K	3.21 5.26	18/23	3.80 6.21	5.84 3.58
4	3.18 5.31	24/31	3.76 6.28	5.90 3.54
20	3.16 5.34	20/26	3.74 6.32	5.94 3.51
22	3.12 5.41	19/25	3.69 6.39	6.01 3.47
16	3.08 5.48	24/32	3.65 6.48	6.09 3.43
10	3.04 5.55	20/27	3.60 6.56	6.17 3.38
34	3.00 5.63	19/26	3.55 6.65	6.25 3.34
14	2.95 5.72	23/32	3.50 6.76	6.35 3.29
14K	2.93 5.76	20/28	3.47 6.81	6.40 3.26
35	2.93 5.70	17/24	3.44 6.86	6.49 3.24
32K	2.87 5.89	23/33	3.39 6.97	6.56 3.18
24	2.83 5.96	20/29	3.35 7.04	6.63 3.15
36	2.80 6.04	17/25	3.30 7.15	6.72 3.11
37	2.78 6.07	23/34	3.29 7.18	6.76 3.09
23	2.74 6.16	18/27	3.24 7.29	6.85 3.05
23	2.69 6.28	17/26	3.18 7.43	6.99 2.99
27	2.66 6.35	22/34	3.15 7.51	7.06 2.96
	2.63 6.42	16/25	3.11 7.59	7.14 2.93
43 28	2.60 6.49	19/30	3.08 7.67	7.14 2.93
29	2.57 6.58	15/24	3.04 7.77	7.31 2.86
		16/26		7.43 2.81
30	2.53 6.67 2.49 6.77		2.99 7.89 2.95 8.00	7.53 2.77
41		17/28		7.62 2.74
31	2.46 6.85	21/35	2.91 8.10	7.71 2.71
33K	2.43 6.94	16/27	2.88 8.20	
33	2.41 7.00	17/29	2.85 8.28	7.79 2.68
31K	2.39 7.05	14/24	2.83 8.33	7.83 2.66
30K	2.37 7.12	15/26	2.80 8.42	7.92 2.64





## TIGER REAR ENDS WEIGHT CHART

Complete Dirt Rear- Magnesium Center, Aluminum Bells, Aluminum Tubes, Spool,
Standard Lower Shaft 4:12
1 Piece Aluminum Tube - 32 Inches Long
Standard W5 32 Inches Long
CM W5 32 Inches Long
Quick Change Standard Gear Set 16
Quick Change Lite Weight Gear Set 16
8 Rib Right Bell Magnesium6.80lbs.
8 Rib Left Bell Magnesium5.82lbs.
Ultra Light Weight Ring Gear
Light Weight Locker
Standard Locker
Light Weight Spool5.08lbs.
Standard Spool
Ring and Pinion11.2lbs.
4.86 Standard Ring Gear9.8lbs.
4.86 Light Weight
4.12 Standard8.32lbs.
Standard Jackshaft
Light Jackshaft3.96lbs.
Aluminum High Nuts Set Of 10pcs
Standard High Nuts Set Of 10pcs
Aluminum Right Bell9.54lbs.
Aluminum Left Bell8.38lbs.
Aluminum Center Section
Magnesium Center Section
Standard Quick Change Rear End
Solid Lower Shaft



## TIGER SPECIFICATIONS

Threaded Ring Gear Bolts	55Ft/lbs
Non-Threaded Ring Gear Bolt / Locknut	55Ft/lbs
Pinion Retaining Plate	35Ft/lbs
Side Bell Thru Bolts	40Ft/lbs
Side Bell Stud Bolts	40Ft/lbs
Seal Plate	35Ft/lbs
Drive Yoke	50Ft/lbs

(Criss-Cross Pattern On All Bolts)

Pinion Bearing Rotational Preload (No	ew) 20~25 in/lbs
---------------------------------------	------------------

Timken Only

Pinion Bearing Rotational Preload (Used) 8~10 in/lbs

Timken Only

Carrier Preload	Aluminum Spool	.010
	Aluminum Locker	.010
	Steel Spool	0.015

Ring & Pinion Backlash

O.008~0.012

Thrustblock Clearance

0.008~0.010

(1/8~1/4 turn)

Heating Temperature 200-250 degrees

#### BREAK-IN PROCEDURE:

Use 90w gear oil for the first race, first test, or first practice. Afterwards use preferred synthetic oil.

## **IMPORTANT!!**

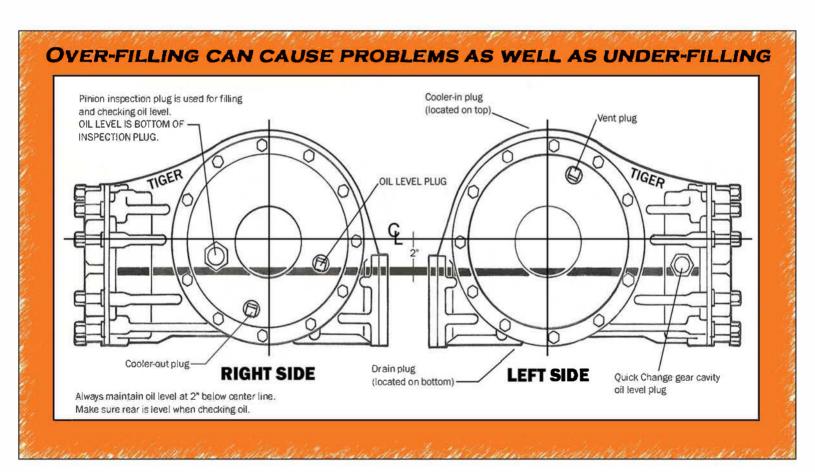
OVER-FILLING CAN CAUSE PROBLEMS AS WELL AS UNDER-FILLING!

<sup>\*</sup>Always use anti seize when threading into aluminum



## OIL FILL & PLUMBING INSTRUCTIONS

## Oii Fili & Plumbing Instructions for Pump



**BUILT BY** 

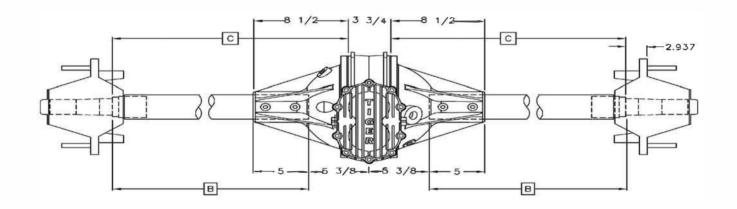




## HOW TO MEASURE TUBE LENGTH

Tiger measures all tubes from the B-Dimension.

The B-Dimension is the area on the snout where the inner hub bearing seats against to the end of the tube; this includes the 5" installed in the bell.

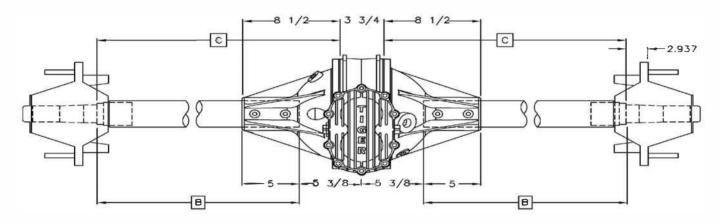


How to measure tubes already installed in the bell:

- Measure from the outer end of the bell to the B-Dimension on the snout (where the inner hub bearing seats)
- •Add 5" for what is in the bell
- •This will give you the proper B-Dimension Tube Length



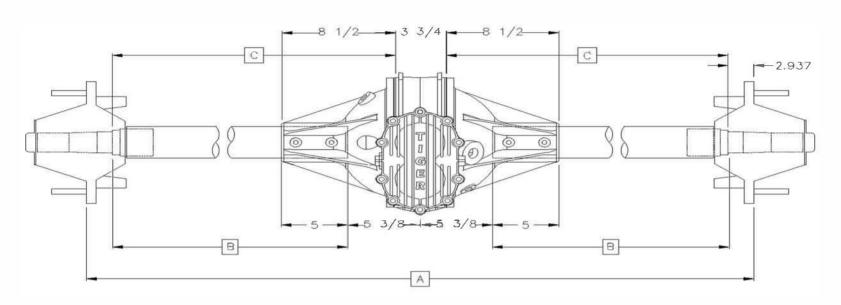
## DIMENSIONAL TECH SHEET



Tube Lengths B-DIM.	Axle lengths for spool, STD Locker,	Axle Lengths for L/W Locker	Axle Length for L/W locker
W/5 1	Gleason, Diamond Track	with -1-1/4 leftside	w/ + 1-1/4 right side
22"	34	32.5	35
22.5"	34.5	33	35.5
23"	35	33.5	36
23.5"	35.5	34	36.5
24"	36	34.5	37
24.5"	36.5	35 35.5	37.5
25"	37	35.5	38
25.5"	37.5	36	38.5
26"	38	36.5	39
26.5"	38.5	37	39.5
27"	39	37.5	40
5 x 5 2" PIN			
22'	32	31	33.5
22.5"	32.5	31.5	34
23"	33	32	34.5
23.5'	33.5	32.5	35
24"	34	33	35.5
24.5"	34.5	33.5	36
25"	35	34	36.5
25.5"	35.5	34.5	37
26"	36	35	37.5
26.5"	36.5	35.5	38
27"	37	36	38.5
x 5 G.N. 2-1/2 PIN			
19.5"	28.5	27	29.5
20"	29	27.5	30
20.5"	29.5	28	30.5
21"	30	28.5	31
21.5"	30.5	29	31.5
22"	31	29.5	32
22.5"	31.5	30	32.5
23"	32	30.5	33
23.5''	32.5	31	33.5
24"	33	31.5	34



# Measurements For Track Width & Off Set

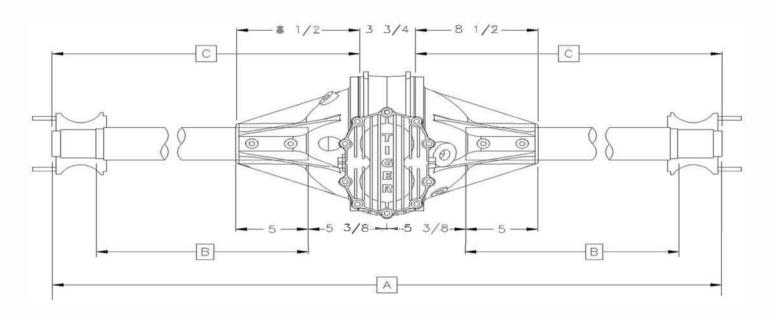


#### STANDARD WIDE 5, HUBFACE TO HUBFACE

Track Width	Equal Ler	ngthTubes	1" Offse	et Tubes	1-1/2' Of	set Tubes	2" Offse	et Tubes	2-1/2" Off	set Tubes	3" Offse	et Tubes
	L	R	L	R	L	R	L	R	L	R	L	R
52-1/2	17-3/4	17-3/4	16-3/4	18-3/4	16-1/4	19-1/4	15-3/4	19-3/4	15-1/4	20-1/4	14-3/4	20-3/4
53	18	18	17	19	16-1/2	19-1/2	16	20	15-1/2	20-1/2	15	21
53-1/2	18-1/4	18-1/4	17-1/4	19-1/4	16-3/4	19-3/4	16-1/4	20-1/4	15-3/4	20-3/4	15-1/4	21-1/4
54	18-1/2	18-1/2	17-1/2	19-1/2	17	20	16-1/2	20-1/2	16	21	15-1/2	21-1/2
54-1/2	18-3/4	18-3/4	17-3/4	19-3/4	17-1/4	20-1/4	16-3/4	20-3/4	16-1/4	21-1/4	15-3/4	21-3/4
55	19	19	18	20	17-1/2	20-1/2	17	21	16-1/2	21-1/2	16	22
55-1/2	19-1/4	19-1/4	18-1/4	20-1/4	17-3/4	20-3/4	17-1/4	21-1/4	16-3/4	21-3/4	16-1/4	22-1/4
56	19-1/2	19-1/2	18-1/2	20-1/2	18	21	17-1/2	21-1/2	17	22	16-1/2	22-1/2
56-1/2	19-3/4	19-3/4	18-3/4	20-3/4	18-1/4	21-1/4	17-3/4	21-3/4	17-1/4	22-1/4	16-3/4	22-3/4
57	20	20	19	21	18-1/2	21-1/2	18	22	17-1/2	22-1/2	17	23
57-1/2	20-1/4	20-1/4	19-1/4	21-1/4	18-3/4	21-3/4	18-1/4	22-1/4	17-3/4	22-3/4	17-1/4	23-1/4
58	20-1/2	20-1/2	19-1/2	21-1/2	19	22	18-1/2	22-1/2	18	23	17-1/2	23-1/2
58-1/2	20-3/4	20-3/4	19-3/4	21-3/4	19-1/4	22-1/4	18-3/4	22-3/4	18-1/4	23-1/4	17-3/4	23-3/4
59	21	21	20	22	19-1/2	22-1/2	19	23	18-1/2	23-1/2	18	24
59-1/2	21-1/4	21-1/4	20-1/4	22-1/4	19-3/4	22-3/4	19-1/4	23-1/4	18-3/4	23-3/4	18-1/4	24-1/4
60	21-1/2	21-1/2	20-1/2	22-1/2	20	23	19-1/2	23-1/2	19	24	18-1/2	24-1/2
60-1/2	21-3/4	21-3/4	20-3/4	22-3/4	20-1/4	23-1/4	19-3/4	23-3/4	19-1/4	24-1/4	18-3/4	24-3/4
61	22	22	21	23	20-1/2	23-1/2	20	24	19-1/2	24-1/2	19	25
61-1/2	22-1/4	22-1/4	21-1/4	23-1/4	20-3/4	23-3/4	20-1/4	24-1/4	19-3/4	24-3/4	19-1/4	25-1/4
62	22-1/2	22-1/2	21-1/2	23-1/2	21	24	20-1/2	24-1/2	20	25	19-1/2	25-1/2
62-1/2	22-3/4	22-3/4	21-3/4	23-3/4	21-1/4	24-1/4	20-3/4	24-3/4	20-1/4	25-1/4	19-3/4	25-3/4
63	23	23	22	24	21-1/2	24-1/2	21	25	20-1/2	25-1/2	20	26
63-12	23-1/4	23-1/4	22-1/4	24-1/4	21-3/4	24-3/4	21-1/4	25-1/4	20-3/4	25-3/4	20-1/4	26-1/4
64	23-1/2	23-1/2	22-1/2	24-1/2	22	25	21-1/2	25-1/2	21	26	20-1/2	26-1/2
64-1/2	23-3/4	23-3/4	22-3/4	24-3/4	22-1/4	25-1/4	21-3/4	25-3/4	21-1/4	26-1/4	20-3/4	26-3/4
65	24	24	23	25	22-1/2	25-1/2	22	26	21-1/2	26-1/2	21	27
65-1/2	24-1/4	24-1/4	23-1/4	25-1/4	22-3/4	25-3/4	22-1/4	26-1/4	21-3/4	26-3/4	21-1/4	27-1/4
66	24-1/2	24-1/2	23-1/2	25-1/2	23	26	22-1/2	26-1/2	22	27	21-1/2	27-1/2



# Measurements For Track Width & Off Set

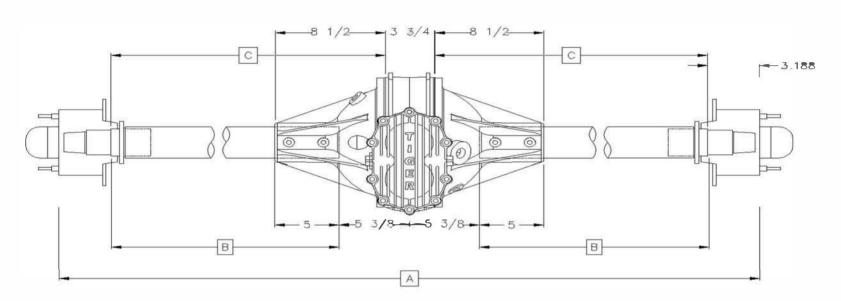


5 X 5 2" PIN HUBFACE TO HUBFACE

Track Width	Equal Le	ngthTubes	1" Offs	et Tubes	1-1/2' Off	set Tubes	2" Offse	et Tubes	2-1/2" Off	set Tubes	3" Offse	et Tubes
	L	Ŕ	L	Ŕ	L	Ŕ	) L	Ŕ	L	Ŕ	L	Ŕ
52-1/2	18-3/8	18-3/8	17-3/8	19-3/8	16-7/8	19-7/8	16-3/8	20-3/8	15-7/8	20-7/8	15-3/8	21-3/8
53	18-5/8	18-5/8	17-5/8	19-5/8	17-1/8	20-1/8	16-5/8	20-5/8	16-1/8	21-1/8	15-5/8	21-5/8
53-1/2	18-7/8	18-7/8	17-7/8	19-7/8	17-3/8	20-3/8	16-7/8	20-7/8	16-3/8	21-3/8	15-7/8	21-7/8
54	19-1/8	19-1/8	18-1/8	20-1/8	17-5/8	20-5/8	17-1/8	21-1/8	16-5/8	21-5/8	16-1/8	22-1/8
54-1/2	19-3/8	19-3/8	18-3/8	20-3/8	17-7/8	20-7/8	17-3/8	21-3/8	16-7/8	21-7/8	16-3/8	22-3/8
55	19-5/8	19-5/8	18-5/8	20-5/8	18-1/8	21-1/8	17-5/8	21-5/8	17-1/8	22-1/8	16-5/8	22-5/8
55-1/2	19-7/8	19-7/8	18-7/8	20-7/8	18-3/8	21-3/8	17-7/8	21-7/8	17-3/8	22-3/8	16-7/8	22-7/8
56	20-1/8	20-1/8	19-1/8	21-1/8	18-5/8	21-5/8	18-1/8	22-1/8	17-5/8	22-5/8	17-1/8	23-1/8
56-1/2	20-3/8	20-3/8	19-3/8	21-3/8	18-7/8	21-7/8	18-3/8	22-3/8	17-7/8	22-7/8	17-3/8	23-3/8
57	20-5/8	20-5/8	19-5/8	21-5/8	19-1/8	22-1/8	18-5/8	22-5/8	18-1/8	23-1/8	17-5/8	23-5/8
57-1/2	20-7/8	20-7/8	19-7/8	21-7/8	19-3/8	22-3/8	18-7/8	22-7/8	18-3/8	23-3/8	17-7/8	23-7/8
58	21-1/8	21-1/8	20-1/8	22-1/8	19-5/8	22-5/8	19-1/8	23-1/8	18-5/8	23-5/8	18-1/8	24-1/8
58-1/2	21-3/8	21-3/8	20-3/8	22-3/8	19-7/8	22-7/8	19-3/8	23-3/8	18-7/8	23-7/8	18-3/8	24-3/8
59	21-5/8	21-5/8	20-5/8	22-5/8	20-1/8	23-1/8	19-5/8	23-5/8	19-1/8	24-1/8	18-5/8	24-5/8
59-1/2	21-7/8	21-7/8	20-7/8	22-7/8	20-3/8	23-3/8	19-7/8	23-7/8	19-3/8	24-3/8	18-7/8	24-7/8
60	22-1/8	22-1/8	21-1/8	23-1/8	20-5/8	23-5/8	20-1/8	24-1/8	19-5/8	24-5/8	19-1/8	25-1/8
60-1/2	22-3/8	22-3/8	21-3/8	23-3/8	20-7/8	23-7/8	20-3/8	24-3/8	19-7/8	24-7/8	19-3/8	25-3/8
61	22-5/8	22-5/8	21-5/8	23-5/8	21-1/8	24-1/8	20-5/8	24-5/8	20~1/8	25-1/8	19-5/8	25-5/8
61-1/2	22-7/8	22-7/8	21-7/8	23-7/8	21-3/8	24-3/8	20-7/8	24-7/8	20-3/8	25-3/8	19-7/8	25-7/8
62	23-1/8	23-1/8	22-1/8	24-1/8	21-5/8	24-5/8	21-1/8	25-1/8	20-5/8	25-5/8	20-1/8	26-1/8
62-1/2	23-3/8	23-3/8	22-3/8	24-3/8	21-7/8	24-7/8	21-3/8	25-3/8	20-7/8	25-7/8	20-3/8	26-3/8
63	23-5/8	23-5/8	22-5/8	24-5/8	22-1/8	25-1/8	21-5/8	25-5/8	21-1/8	26-1/8	20-5/8	26-5/8
63-12	23-7/8	23-7/8	22-7/8	24-7/8	22-3/8	25-3/8	21-7/8	25-7/8	21-3/8	26-3/8	20-7/8	26-7/8
64	24-1/8	24-1/8	23-1/8	25-1/8	22-5/8	25-5/8	22-1/8	26-1/8	21-5/8	26-5/8	21-1/8	27-1/8
64-1/2	24-3/8	24-3/8	23-3/8	25-3/8	22-7/8	25-7/8	22-3/8	26-3/8	21-7/8	26-7/8	21-3/8	27-3/8
65	24-5/8	24-5/8	23-5/8	25-5/8	23-1/8	26-1/8	22-5/8	26-5/8	22-1/8	27-1/8	21-5/8	27-5/8
65-1/2	24-7/8	24-7/8	23-7/8	25-7/8	23-3/8	26-3/8	22-7/8	26-7/8	22-3/8	27-3/8	21-7/8	27-7/8
66	25-1/8	25-1/8	24-1/8	26-1/8	23-5/8	26-5/8	23-1/8	27-1/8	22-5/8	27-5/8	22-1/8	28-1/8



# Measurements For Track Width & Off Set



#### G.N. 2-1/2" PIN HUBFACE TO HUBFACE W/ DRIVE FLANGES

Track Width	Equal LengthTubes		1" Offset Tubes		1-1/2' Offset Tubes		2" Offset Tubes		2-1/2" Offset Tubes		3" Offset Tubes	
	L	R	L	R	L	R	L	R	L	R	L	R
52-1/2	17-3/4	17-3/4	16-3/4	18-3/4	16-1/4	19-1/4	15-3/4	19-3/4	15-1/4	20-1/4	14-3/4	20-3/4
53	18	18	17	19	16-1/2	19-1/2	16	20	15-1/2	20-1/2	15	21
53-1/2	18-1/4	18-1/4	17-1/4	19-1/4	16-3/4	19-3/4	16-1/4	20-1/4	15-3/4	20-3/4	15-1/4	21-1/4
54	18-1/2	18-1/2	17-1/2	19-1/2	17	20	16-1/2	20-1/2	16	21	15-1/2	21-1/2
54-1/2	18-3/4	18-3/4	17-3/4	19-3/4	17-1/4	20-1/4	16-3/4	20-3/4	16-1/4	21-1/4	15-3/4	21-3/4
55	19	19	18	20	17-1/2	20-1/2	17	21	16-1/2	21-1/2	16	22
55-1/2	19-1/4	19-1/4	18-1/4	20-1/4	17-3/4	20-3/4	17-1/4	21-1/4	16-3/4	21-3/4	16-1/4	22-1/4
56	19-1/2	19-1/2	18-1/2	20-1/2	18	21	17-1/2	21-1/2	17	22	16-1/2	22-1/2
56-1/2	19-3/4	19-3/4	18-3/4	20-3/4	18-1/4	21-1/4	17-3/4	21-3/4	17-1/4	22-1/4	16-3/4	22-3/4
57	20	20	19	21	18-1/2	21-1/2	18	22	17-1/2	22-1/2	17	23
57-1/2	20-1/4	20-1/4	19-1/4	21-1/4	18-3/4	21-3/4	18-1/4	22-1/4	17-3/4	22-3/4	17-1/4	23-1/4
58	20-1/2	20-1/2	19-1/2	21-1/2	19	22	18-1/2	22-1/2	18	23	17-1/2	23-1/2
58-1/2	20-3/4	20-3/4	19-3/4	21-3/4	19-1/4	22-1/4	18-3/4	22-3/4	18-1/4	23-1/4	17-3/4	23-3/4
59	21	21	20	22	19-1/2	22-1/2	19	23	18-1/2	23-1/2	18	24
59-1/2	21-1/4	21-1/4	20-1/4	22-1/4	19-3/4	22-3/4	19-1/4	23-1/4	18-3/4	23-3/4	18-1/4	24-1/4
60	21-1/2	21-1/2	20-1/2	22-1/2	20	23	19-1/2	23-1/2	19	24	18-1/2	24-1/2
60-1/2	21-3/4	21-3/4	20-3/4	22-3/4	20-1/4	23-1/4	19-3/4	23-3/4	19-1/4	24-1/4	18-3/4	24-3/4
61	22	22	21	23	20-1/2	23-1/2	20	24	19-1/2	24-1/2	19	25
61-1/2	22-1/4	22-1/4	21-1/4	23-1/4	20-3/4	23-3/4	20-1/4	24-1/4	19-3/4	24-3/4	19-1/4	25-1/4
62	22-1/2	22-1/2	21-1/2	23-1/2	21	24	20-1/2	24-1/2	20	25	19-1/2	25-1/2
62-1/2	22-3/4	22-3/4	21-3/4	23-3/4	21-1/4	24-1/4	20-3/4	24-3/4	20-1/4	25-1/4	19-3/4	25-3/4
63	23	23	22	24	21-1/2	24-1/2	21	25	20-1/2	25-1/2	20	26
63-12	23-1/4	23-1/4	22-1/4	24-1/4	21-3/4	24-3/4	21-1/4	25-1/4	20-3/4	25-3/4	20-1/4	26-1/4
64	23-1/2	23-1/2	22-1/2	24-1/2	22	25	21-1/2	25-1/2	21	26	20-1/2	26-1/2
64-1/2	23-3/4	23-3/4	22-3/4	24-3/4	22-1/4	25-1/4	21-3/4	25-3/4	21-1/4	26-1/4	20-3/4	26-3/4
65	24	24	23	25	22-1/2	25-1/2	22	26	21-1/2	26-1/2	21	27
65-1/2	24-1/4	24-1/4	23-1/4	25-1/4	22-3/4	25-3/4	22-1/4	26-1/4	21-3/4	26-3/4	21-1/4	27-1/4
66	24-1/2	24-1/2	23-1/2	25-1/2	23	26	22-1/2	26-1/2	22	27	21-1/2	27-1/2

## Quick-Change

### REAREND MAINTENANCE PROCEDURES

Compiled by Bob Bolles Photos Courtesy of Tiger Rear Ends

When the season is over or when something breaks inside your rear end during the season, it is time to disassemble, repair or rebuild, and then reassemble your rear end. There are methods and tools available that will make your job go smoother, with better overall results. These tips may also help prevent costly mistakes.

#### **DISASSEMBLY AND INSPECTION**

When disassembling your rear end, make sure you note the condition of all the parts. When draining the rear end grease, run it

run it through a filter to see if ther Look in the hou to replace

CLEANIN After thoroughl the housir Once pinion becavailable.

The bells and center sections are now available in black anodized or plain aluminum or titanium. The black coating reduces retained heat, which is the enemy of bearings, gears, differentials, and so on.



## featured this article in the April 2006 issue!

see if there are any telltale metal bits or pieces that may indicate a part failure.

Look over the gear wear pattern as well as the bearing play and any obvious crack in the housing that may only be seen from the inside. Now is the time to decide whether to replace the center section, a right or left bell side, or one of the axle tubes.

#### CLEANING THE PARTS

After complete disassembly, clean the center section and all of the gears thoroughly. Again, when cleaning, note any strange wear patters or signs of stress in the housing bearing hangers and so on.

Once all of the parts have been cleaned and inspected, we must select the type of pinion bearing we are to use. There are standard or special low-friction bearings available. These LF types actually reduce rotational friction, and therefore reduce the horsepower needed to turn the rear-end. This increases the power to the rear wheels and would be a good choice based on cost versus benefits.

#### ASSEMBLE THE PINION

We are now ready to assemble the pinion. We press the new bearing onto the front of the pinion shaft. Add a small amount of anti seize to the threads of the pinion and install the pinion washer and the posi-lock nut by hand. Leave this untorqued for now.

Next, install the nose roller bearing at the rear of the pinion shaft. The pinion is

now assembled and ready to be installed into the center section.

Decide which type of lower shaft or jack shaft, as it is sometimes called, you will use. There are several choices: solid, gun drilled, or the type that is hexed at the rear for a solid or drilled oil pump drive. All of these can be polished. The lower shaft takes two bearings, front lower shaft and rear lower shaft.

It is advised, if space allows, to run the rear end oil pump of f the pinion shaft. This slows down the speed of the pump by the same amount as the gear ratio of the rear end. Put the center section in an oven and heat to a temperature of 250 degrees F (not to exceed 300 degree F) for at least 15 minutes. This heats and expands the bearing holes for easy insertion so that after the section cools, the pinion and jack shaft bearings will be held tight. A pair of heavy welder's gloves will be needed when placing the center section into the oven and removing it from the oven.

After it has been sufficiently heated, take the center section out of the oven and lay it on its side. Install the pinion assembly with the nose roller bearing installed on the pinion shaft. Make sure you get the bearings to bottom out in the bearing bores. Because the casing is still hot, the bearings may not seat all of the way, and we want to make sure the bearings are fully seated.

Next, we install the lower shaft and slide the proper front and rear bearing in the lower shaft bearing bores, while again making sure they are fully seated. Now, let the center section sit and cool off.

After cooling, the center section is placed in a vise that has aluminum jaws. Install the rear cover studs if these are being replaced or have been removed on disassembly. At each threaded hole, we push a 5/16-inch steel ball to the bottom of the hole before installing the stud. This is done so that the stud will seat tightly against the ball and not stop at the untapped bottom portion of the threaded hole. Use red Loctite, putting a small amount on the whole thread

before screwing the studs.

Install the pinion retaining plate. This will involve using three locking tabs, and six 3/8x16x1-inch bolts. Use anti seize on all of the bolts and torque them to 35 ft.-lb. Do not use Loctite here because you will bend the locking tabs

over the bolt heads to secure them. The retaining plate also holds the rear

lower shaft bearing in place.

Next, torque the pinion nut. The reason we installed the cover studs first, is beacuse they will hold the special Tiger designed pinion torque tool. This tool holds the nut as we turn the pinion shaft from the rear to a torque of 150 ft.-lb for the low-friction bearings, or 25lb/in. rotational resistance for the standard Timken bearings. Now, install the posi-lock cap over the pinion nut. This keeps the pinion nut from backing off.

Next, install the voke spacer onto the lower shaft to prevent the voke

from pressing on the seal and eventually ruining it.

A yoke seal is then installed in the seal plate and held in place by a new retaining ring. Install the O-ring in the groove and attach the aluminum seal plate to the front. Fasten this plate using six cat washers and six 3/8x 16x 1 1/4-inch bolts. Before tightening the plate, place a small amount of oil on the yoke surface and slide the drive yoke into the seal.

Apply blue Loctite to the bolts and then torque them to 35ft.-lb. With the drive yoke in place, put a small bead of silicone around the end of the lower shaft and the front edge of the yoke. This serves to seal between the

spline grooves to prevent oil leakage. Then, the 3/8x24x1 1/4-inch bolt and drive yoke retaining washer are installed and

torqued to 55 ft.-lb.



Special tools are used to press the bearings onto the pinion shaft. These ensure that the bearing goes on straight and is properly seated.

The pinion nut is held in place using a special tool that is held by the cover studs. Then, the pinion shaft is rotated to obtain the proper torque on the nut.

You will need to decide which type of differential to use. There are many choices available, and no matter which one you end up with, the process of the build is the same. Let's just say we are gong to use a spool, by far the cheapest of all and the most common.

We are ready to install our ring gear onto the differential, in this case the spool. We hand-prepare the surface (using a fine emery cloth, sandpaper, or a honing stone) on the back of the ring gear. Clean the area

thoroughly after preparation. The ring gear is threaded for 12 bolts. Red Loctite is applied to the threads in the ring gear holes before inserting the ring gear bolts. Applying Loctite to the holes instead of the bolts, prevents the possibility of Loctite seeping onto the surface of the ring gear between the gear and the differential. If anything gets between these two parts, the gear will not run true to the pinion and there will be trouble. Torque the ring gear bolts using a crossing pattern in three steps: first to



jackshaft while you tighten and torque the voke nut.

35-ft.-lb, then to 45ft.-lb, and finally to 55 ft.-lb.

Now we can put our bells and axle tubes together. All tubes should be scribed so that they will be installed correctly. When using cambered tubes, it is critical to line up the tubes properly to prevent rotation, which will create unwanted toe in the rear wheels. This is very important to get right.

If you are going to run the tube seals, this is the time to install them into the axle tubes. Push them out toward the snout end so they will not be near the bell end of the axle tube as it is inserted into the hot bell.

The assembly of the bells is fairly simple. You have a left and a right side bell. Each bell is scribed with a 0-degree and 2-degree mark. Again, the heavy welder's gloves are needed. Place the bells into the oven and heat to 250 degrees F for 15 minutes. Once they are up to temperature, take one out, noting left from right. Make sure you put the left axle tube in the left bell and the right axle tube in the right bell while making sure the alignment marks are in line.

When using cambered axle tubes, the snouts are of an opposite angle side to side. Accidentally reversing the tubes would reverse the intended camber angle. A negative 1.5-degree tube properly mounted on the right side would still be negative 1.5-degree snout when mounted on the left side, where we really need the left side to be a positive camber.

After a few seconds of cooling, the tubes will become firmly married to the bells. At this point, turn the axle tube and bell assembly over and install the new bearing race into the bell, making sure they are fully seated. Then let the entire assembly cool.

If we have a new bell or axle tubes, we can drill and tap the bells and tubes to permanently attach them. We will be using 3/8x24xl inch bolts for this. Now is the time to push the tube seals back into the tube toward the bell end. Upon completion, we will make sure the seal is between the two sets of axle tube bolts.

After the holes are drilled and tapped, and the edges of the holes are cleaned up, push the seal all the way back to

the bell end of the tube. Install the outer bolts (the ones toward the snout) using red Loctite, and then slide the tube seal out against the outer bolts while you install the three inner bolts, adding a small amount of red Loctite. Torque them all to 35ft.-lb. Now the tube seal is sandwiched between the two sets of bolts, keeping the seal from moving in or out in the tube.

Let the left tube and bell stand on end with the tube snout down. We thread it into our specially made stand built to hold the axle tube. The tube goes into this threaded collar while it is mounted and welded to a steel wheel. Now we have a base we can use to finish building the rear end. Some of the most critical steps are coming up.

We now have the left bell on the bottom with the differential bearing race facing up. Install the wear pad in the machined bore in the left bell and run it all of the way out for now. We are going to work on getting the lash and crush spacing correctly set. The lash is the spacing between the pinion gear and the ring gear, and the crush is the preload on the differential bearings.



Note the special stand that holds the axle tube. The snout is screwed into the stand. Using the tool puts the part within easy reach. You can build one of these at your shop.

This is a very important step. This part of the build may take the most time because you may have to press bearings on and off as well as add and subtract shims to get the right numbers. One trick is using setup bearings. These are temporary bearings that have been lightly honed and enlarged on the inside surface so they will slide easily over the spool. The final assembly will require pressing on new bearings.

As a starting point, we begin with a 0.020-0.025-inch stack of shims on the bottom of the spool behind the bearing, and then slide on a setup bearing. Now we will set the spool in the left bell, leaving the bell O-ring seals out until final assembly.

We will place our center section onto the left bell. While pressing down hard onto the spool, centered on the tapered bearing race, and holding the pinion still, turn the spool back and forth to estimate the lash. We want to feel around 0.010-inch or so of lash between the pinion and the ring gear. If it is too tight or too loose, you would add or remove shims

from the stack on the spool setup bearing until you get it close.

It is now time to place shims onto the top of the spool and under the bearing. Adding shims equaling about 0.060-inch will put you close. Now, slip your other setup bearing on the spool.

Place the right bell and tube over the spool and set it on the center section. If the bell fits on the spool bearing without rocking, you will need to add more shims to the top. We want the bell to end up approximately 0.010-inch off the center section before we tighten the center section bolts.

To get there, start out by placing 0.010 inch of shims at equal spacing in three places around and between the center section and bell. If you can, press down on the tube and bell with the shims in place without it rocking, we may need to add (and not remove) internal shims to achieve 0.010-inch crush spacing.

Add or remove shim spacing under the bell until the bell starts to rock. Then, add or remove small increments of the shims until there is no rocking and the shims fit the gap like a feeler gauge. Measure the final thickness of the bell shims and find the difference between their thickness and 0.010-inch. If the bell spacer shims are more than 0.010-inch,



Spacer shims are placed between the center section and the right bell to adjust for crush clearance. This is a trial-and-error way to obtain the correct shim spacing behind the differential bearing to arrive at 0.010-inch crush when tightening the bell to the center section.



Once the rearend has been bolted together and re-checked for gear lash, a final adjustment might be needed. That means the carrier bearings must be pulled. This tool pulls the pressed-on bearings without causing damge.

remove that difference from the shims behind the spool bearing to lower the bell to a 0.010-inch gap. If the bell spacer shims are less than 0.010-inch, add the difference to the shims behind the spool bearing to bring the gap up to 0.010-inch.

Once we have installed the correct amount of crush shims, we will check the gear lash. For backlash, we will tighten the right bell to the center section and use a lash tool attached to the pinion shaft. We need to see 0.010-0.012-inch of lash as we rotate the pinion gear against the ring gear. To adjust this lash, we will be moving small amounts

of the spool bearing shim stack from the right to the left if the last is too little, or from the left to right is the lash is too much.

We can now install our dial indicator to check the pinion-to-ring gear lash. The tool mounts onto one of the cover studs, and we slide a Tiger flag tool onto the pinion shaft. We can check the lash to the thousandths by rocking the pinion shaft back and forth, making sure to check the lash in several different places on the pinion gear. This means we check the lash in one position, then rotate the pinion shaft 90 degrees and do it again, all the way through 360 degrees.

This is a trial-and-error method that can take some time, but it is essential for optimum performance. Once we have arrived at the correct shim spacing, we will press the new differential bearings onto the spool,

leaving the shim stacks as they ended up. We will go back and reassemble the bells and center section and do the lash measurement process all over again.



Another unique tool is this pinion flag tool. It is specially designed to provide a surface on which to rest the dial indicator while checking for gear backlash. The distance from the center of the pinion shaft to the point where the indicator lies is the same as the distance to where the gears mesh. This way you get a true lash measurement, just as if you had measured between the actual gear teeth.

Most of the time it will come out the same, but if not, we may have to make a final fine adjustment by adjusting the shim spacing. Be sure to use a special bearing puller tool if you need to remove a pressed-on bearing to prevent damage to the bearing.

For final assembly, unbolt the rear, remove the right bell and center sections, and place the bell O-rings in their

We use the center section bolts to guide the bell into place. With the O-rings in place, mismatching the bell to center section might cause leaking later on.

grooves, beginning with the left bell. We need to use a light film of silicone around the mating surface of both of the bells and center section. Place two of the center section bolts into the center section and slide the center section down onto the left bell. Press the center section down, then take the two bolts out and place them in the right bell.

Now slide the right bell over the center section, using the bolts to line it up. Install the 10 through bolts and two stud bolts and torque them all to 40 ft.-lb using the crossing pattern.

As a final step, we will adjust the wear pad we installed in the left bell. Screw in the wear pad, or thrust block as it is also called, until it just barely touches the back of the ring gear, and back it off one-eighth of a turn. This should equal between

0.010-0.015-inch of clearance. This pad supports the ring gear on the back side of the rear end (opposite the pinion gear) if the front of the ring gear tries to move away from the pinion gear.

Install the rear end and fill it with rear end lubricant, checking for leaks. By using proper assembly techniques and quality parts, your racing rear end should provide many races of reliable performance before your next overhaul. If you are using a locker differential or one of the traction-sensing diffs, keep the heat in the rear end down by using a rear end cooler during long runs. Just as in brakes, heat is the enemy for rear ends.

## FREQUENTLY ASKED QUESTIONS



## Here are the answers to our customer's most common questions...

- Q. What type of oil do Tiger Rear Ends run?
- A. At Tiger, we recommend Tiger H.P. synthetic 75/90 gear oil. However, some other synthetic oils will work.
  - Q. How much oil do I put in my Tiger Rear End?
- A. DO NOT OVER FILL- There is an inspection plug located on the right side of the bell. Fill it with the recommended oil to the bottom of the inspection hole.
  - Q. How often do I change the oil in my Tiger Rear End?
- A. Tiger Quick Change recommends that you change the oil in your rear end between 200-300 laps.
  - Q. How often do I change the locker springs?
  - A. This is determined by which springs you are using. PURPLE SPRINGS Every 4 to 5 races YELLOW SPRINGS Every 3 to 4 races
  - Q. When do you know that it is time to come in for a rebuild?
- A. We suggest that after a full race season you change seals, check bearings, and backlash along with clearance in the rear end.



## TIGER HIGH PERFORMANCE SYNTHETIC GEAR OIL

Tiger's High Performance Gear Oil is a heavy-duty, extreme pressure gear lubricant compounded in a fully synthetic base. In addition to reducing friction and wear caused by extreme temperature, Tiger's HP Rear End Oil contains additives that prevent rust, oxidation, and corrosion from occurring as well as an anti foaming agent to maintain the top performance and extend the life of your Quick Change.

Tiger Synthetic HP rear End Oil is compatible with standard seal materials as well as mineral oil based products. No special system or flushing procedure is required to convert to Tiger Synthetic HP Rear End Oil.





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