



***Formula Ford 1600 ■ Club Ford 1600 ■ Ford 2000 ■ Sports 2000  
4 -Cylinder Ford Powered Parts Catalog***

## ***A word from Peter***

One July afternoon in 1967 I stood at the Paddock Bend of Brands Hatch Race Track in England and watched 14 freshly painted single-seat race cars take to the track driven by a bunch of unknown drivers, hopeful I'm sure that this could be the start of a successful career as a racing driver. I felt a tingle of excitement myself and a feeling that somehow these little, affordable, cars would finally bring me into a more active role in motor racing.

That race was the first Formula Ford race ever held in the world, from which grew a legendary training ground for many modern greats in motor sport. World Champions such as James Hunt, Jody Schecter, Ayrton Senna and Emerson Fittipaldi all cut their teeth in Formula Ford. The list of famous Formula Ford "graduates" worldwide is too long to mention here, but impressive it is.

Formula Ford has now grown into other step-up formula such as Formula Ford 2000, Sports 2000 and yes, even Formula Atlantic. Since Formula Ford allowed me to become active in motor racing and because I was always helping out my fellow competitors in the USA by acquiring hard to get racing equipment from my native England, it was only natural that British American Transfer or BAT as you know us would evolve.

Throughout the years we have expanded our racing expertise beyond Formula Ford to all 4 Cylinder Ford based racing cars. This includes FF1600, Club Ford, S2000, Formula Continental, Formula Atlantic and even Production, Showroom Stock, Improved Touring, and Circle Track Ford powered race cars. With this, our forth, catalog we have tried to offer you more than just a list of parts and part numbers. You will find technical information and even valuable tips from famous engine builders as well as a comprehensive mix of hard parts, tools and accessories at prices that reflect our ability to buy in volume and direct from the manufacturer.

I am proud of my highly capable staff. You can confidently allow them to handle even your most difficult technical requirements. We not only offer you over 30 years of international racing experience - we also care.

Peter Thompson  
President  
BAT Inc.

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## Engine

1600 OHV FF Hard Parts	illustration	part#
FF 1600 Service Engine	1	F1A
Race Prepared FF Engine		F1AZ
FF 1600 Short Block		F1C
Race Prepared FF Short Block		F1CZ
Cylinder Block Bare	2	F2G
Race Prepared Cylinder Block		F2GZ
Freeze Plug Set		F2FP
Front Timing Cover (Recon)	3	F2H
Rear Cover (Recon)	4	F2HH
Dowel- Block to Bellhousing		F2GD
Main Cap Bolt	5	F2K
Main Cap Stud Set H.D. (10x)		F2KS
Crankshaft (forged 2002 spec.)	6	F5N
Crankshaft Sprocket	7	F5P
Crankshaft Key	8	F5O
Crankshaft Pilot Bearing		F11F
Crankshaft Pulley (tooth belt drive)		F61

### Tips from the Pros

"On straight cylinder bores, meaning no more than .0003" variation from top to bottom, we use a top ring end gap of .015". We also check the land clearance at the bottom of the ring, and if it exceeds .0045" we discard that piston."

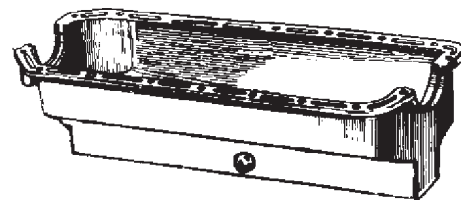
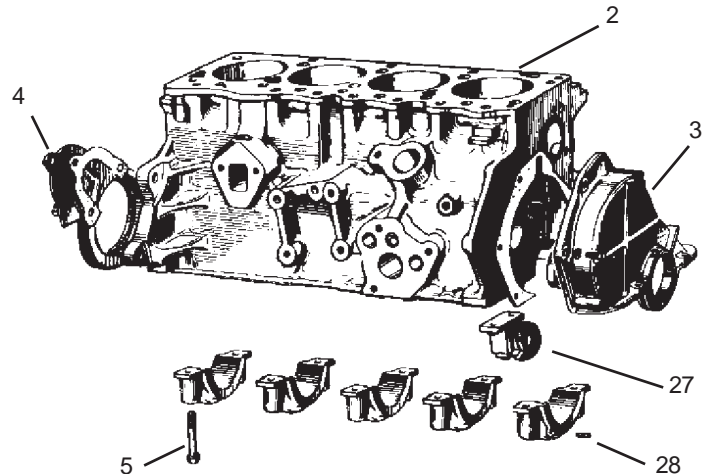
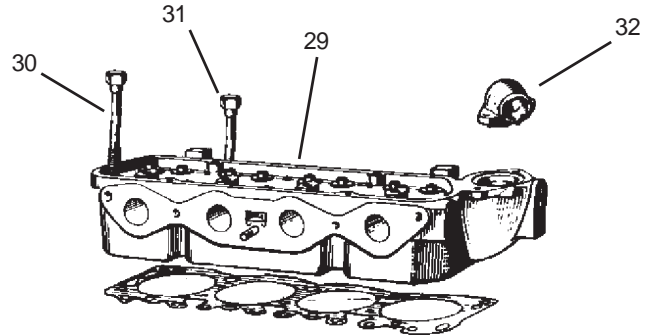
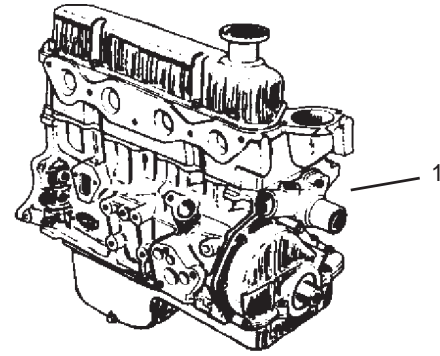
**-Ted Wenz of Savannah Race Engines**

Flywheel (Recon)	9	F5R
Ring Gear 110T (10.125" ID)	10	F5S
Ring Gear 110T (10.00" ID)	10	F5SA
Flywheel Bolt- H.D.	11	F5TA
Flywheel Clutch Dowel		F11G
FF Piston Std. (Hepolite) w/pin	12	F4BB
Cortina Piston +.030 w/pin	12	F4BD
FF Piston Set - Forged 2005 spec		F4BF
Ring Set Moly +.005" (file fit)	13	F4ABH
Ring Set Gapless Moly +.005" (file fit)	13	F4T.005
Top Ring Set Moly +.005"	13	F4ACH
Ring Set Cortina Std. Type +.030"	13	F4AD
Wrist Pin	14	F4C
Circlip Wrist Pin (Spirolock)	15	F4CL
Connecting Rod (Recon)	16	F4E
Connecting Rod Bolt- Standard.	17	F4F
Connecting Rod Bolt- H.D.	17	F4FA
Connecting Rod Bolt- H.D. (12 point)	17	F4FB
FF Camshaft- Blueprint on new core	18	F5A
FF Camshaft- Blueprint regrind on Ford core		F5AB
FF Camshaft Kit w/springs & followers		F5AK

**Tips from the Pros**"In most cases, 1600 cam timing should be 4 degrees retarded, although sometimes we use a little less."

**-Arnie Loyning of Loyning's Engine Service**

Cam Follower (Upated) .516" O.D. (set 8)	19	F5B
Cam Follower Race Prep. .516" O.D. (set 8)	19	F5BR
Cam Follower (Cortina) .436" O.D. (set 8)	19	F5BA
Cam Follower Race Prep. .436" O.D. (set 8)	19	F5BAR



### Product Note:

Parts specific to the Cortina engine are noted. Differences between Cortina and Upated engine include; piston and cylinder head configurations, valve sizes, and cam follower bore diameter. Most other Upated parts interchange. Please call if you have any further questions.

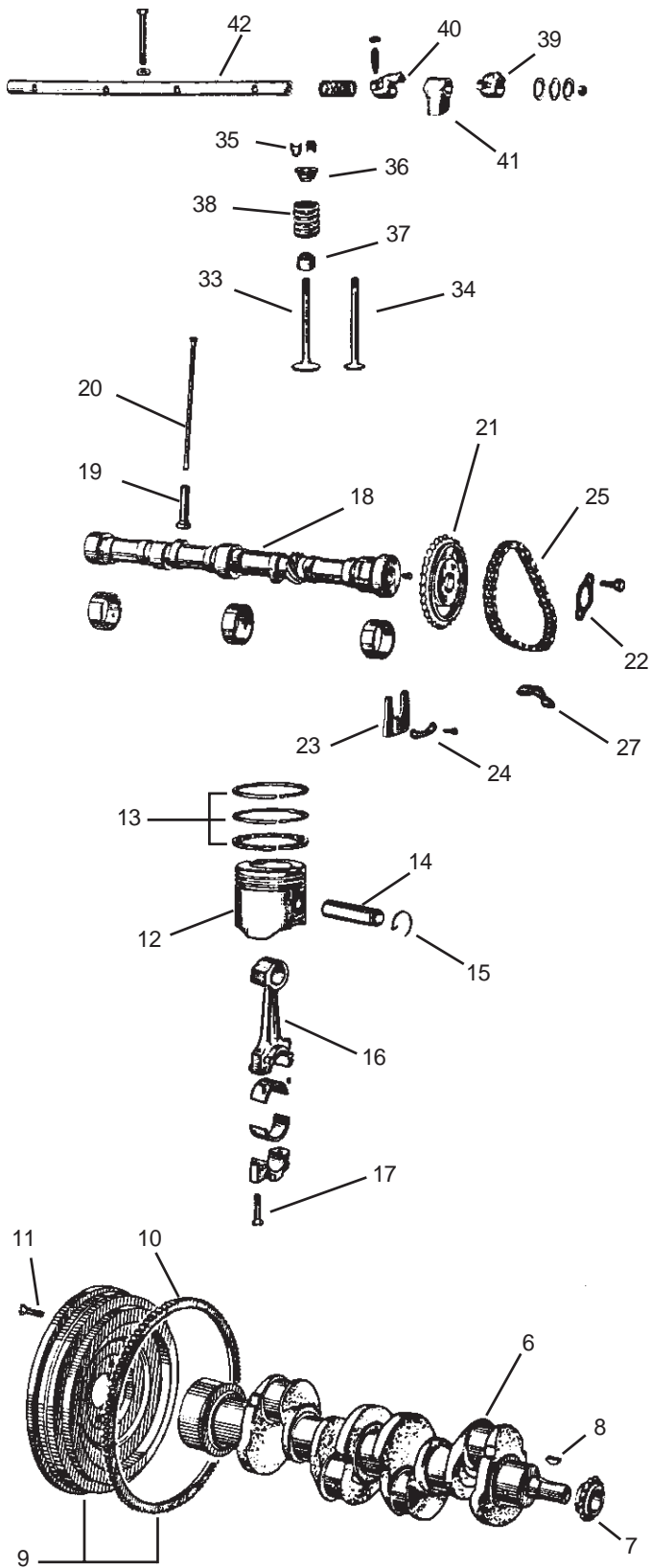


	illustration	part#
Push Rod	20	F5C
Camshaft Sprocket	21	F5F
Camshaft Lock Tab	22	F5H
Camshaft Thrust Plate	23	F5J
Thrust Plate Lock Tab	24	F5K
Dowel Camshaft Std.		F5E
Offset Dowel 1 Degree		F5EA1
Offset Dowel 2 Degree		F5EA2
Offset Dowel 3 Degree		F5EA3
Offset Dowel 4 Degree		F5EA4
Offset Dowel 5 Degree		F5EA5
Offset Dowel 6 Degree		F5EA6
Offset Dowel 7 Degree		F5EA7
Offset Dowel 8 Degree		F5EA8
Offset Dowel 9 Degree		F5EA9
Timing Chain	25	F5G
Timing Chain Tensioner	26	F2J
Timing Chain Tensioner Arm	27	F5I
Pin-Tensioner Arm	28	F2L
Cylinder Head Casting (recon)	29	F2A
Cylinder Head Casting (aluminum)		F2AL
Dowel- Clyinder Head to Block		F2O
Head Bolt Long	30	F2D
Head Bolt Short	31	F2E
H.D. Head Bolt Set		F2DS
Water Outlet	32	F2F
Water Outlet (with radiator filler on top)		F2FA
Valve Cover (steel)		F604S
Valve Intake Uprated (standard)	33	F3HAE
Valve Intake Uprated (stainless)	33	
Valve Intake Cortina	33	F3HB
Valve Exhaust Uprated (standard)	34	F31AE
Valve Exhaust Uprated (stainless)	34	
Valve Exhaust Cortina	34	F31B
Valve Lock (keeper)	35	F3D
Valve Spring Retainer	36	F3E
Valve Stem Seal	37	F3G
Race Valve Spring Set (chrome silicon)	38	F3F
Valve Spring Cup		F3FC
Race Valve Spring Set (euro type)	38	F3FE
Rocker Arm Right	39	F3C
Rocker Arm Left	40	F3B
Rocker Pedestal- (alloy 2002 spec)	41	F3P
Rocker Shaft- (2002 spec)	42	F3SHD
Rocker Arm Assembly (recon)		F3A
Intake Manifold Uprated (recon)		F8B

**Product Note:**  
 All 1600 OHV Formula Ford parts listed here are legal for SCCA FF 1600 racing.

## Engine

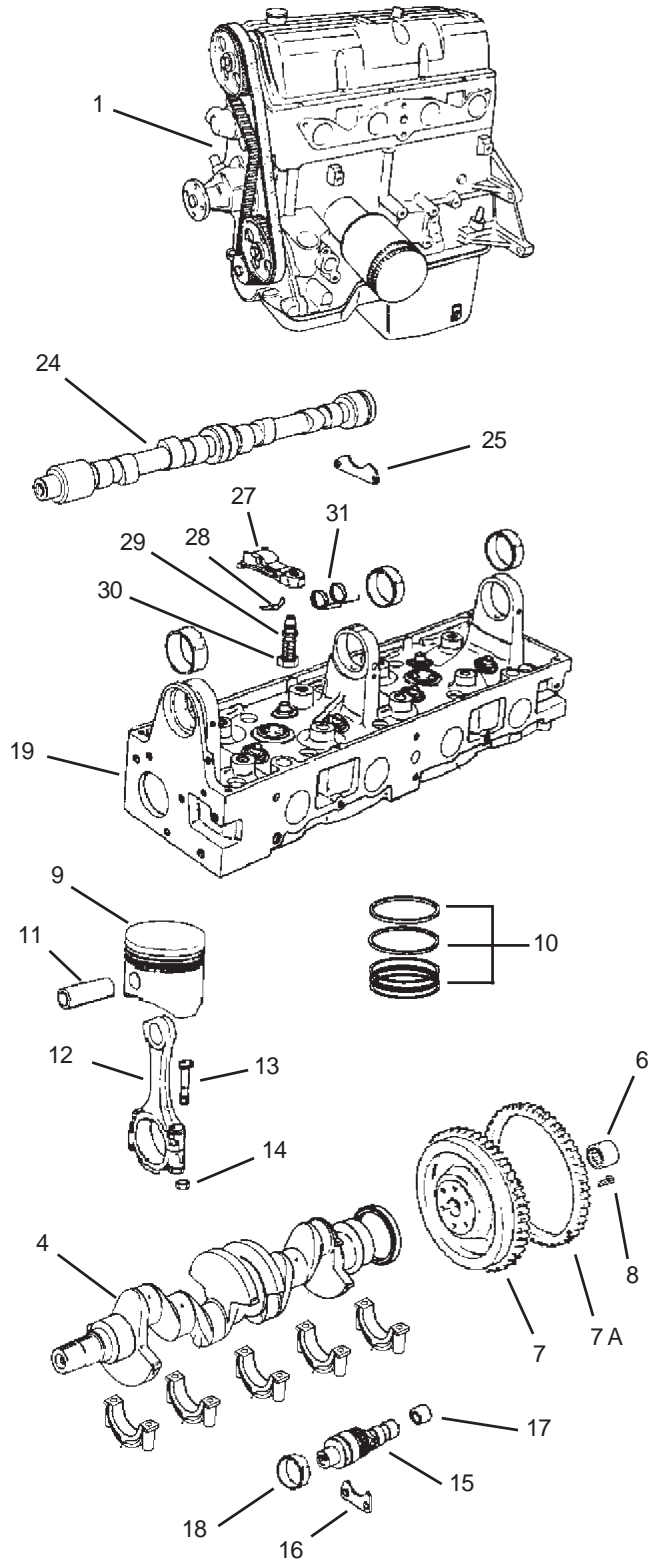
### 2000 OHC Hard Parts

	illustration	part#
Service Engine	1	S1B
Short Block (85 spec.)		S1C
Cylinder Block Bare (85 spec.)		S2G
Freeze Plug Set		S2FP
Front Cover Crank	2	S2H
Front Cover Aux. Shaft	3	S2HD
Bolt- Main Cap		S2K
H.D. Main Cap Stud Set		S2KS
Dowel-Block to Bellhousing		F2GD
Oil Pump- standard wet sump		S2P
Oil Pump Drive Shaft		S2PS
Fuel Pump (AC/Ford)		S10A
Fuel Pump Push Rod		S10P
Water Pump (Ford)		S6A
Water Pump (alloy)		S6AA
Crankshaft	4	S5N
Crankshaft Recon (used)		S5NU
Crank Key (long)		S50
Crank/Aux Key (short)		S50S
Sprocket- Crankshaft	5	S5P
Crankshaft Pilot Bearing	6	F11F
Pulley Crank/Oil/Water Pump- tooth belt		S61
Flywheel w/Ring Gear 130T	7	S5R
Flywheel- Used		S5RU
Flywheel Ring Gear 110T	7A	F5S
Flywheel Ring Gear 135T	7A	S5S
Flywheel Bolt	8	S5T
Flywheel Bolt Set H.D.	8	S5TS
Piston Std. 99 spec. (Ford/JE) forged	9	S4B2F
Piston Std. 85 spec. (Hepolite)	9	S4B5A
Race Ring Set Moly +.005 (file fit)	10	S4AB
Race Ring Set Moly (file fit) for S4B2F piston		S4ABF
Ring Set Moly- Top Ring Only +.005"		S4AC
Ring Set Gapless Moly +.005" (file fit)		S4T.005

#### Tips from the Pros

"The ideal piston to cylinder wall clearance in the 2000 engine is .005". We use moly top rings and set the end gap to .015". -Arnie Loyning of Loyning Engine Service

Wrist Pin	11	S4C
Connecting Rod (cast) Fomoco	12	S4E
Connecting Rod (forged) Fomoco	12	S4EF
Connecting Rod Set (4) (forged) Crower		S4ECS
Con Rod Bolt	13	S4F
Con Rod Bolt H.D.	13	S4FA
Con Rod Nut	14	S4FN
Con Rod Bolt/Nut Set H.D. (SPS type)	14	S4FS
Auxiliary Shaft	15	S5D
Thrust Plate- Aux. Shaft	16	S5JD
Bushing- Aux. Shaft	17	S5DB
Bearing- Aux. Shaft	18	S5DC
Cylinder Head 85 spec. w/valves	20	S2AE
Head Plug		S2AP
Water Outlet	21	S2F
H.D. Head Stud Set	22	S2DS
Bolt- Cyl. Head (torx 55)	22	S2DT
Valve Cover Narrow (early)	23	S604S
Valve Cover Wide (late)	23	S604SL



#### Product Note:

All 2000 OHC Ford parts listed here are legal for SCCA S2000/FF2000 racing.



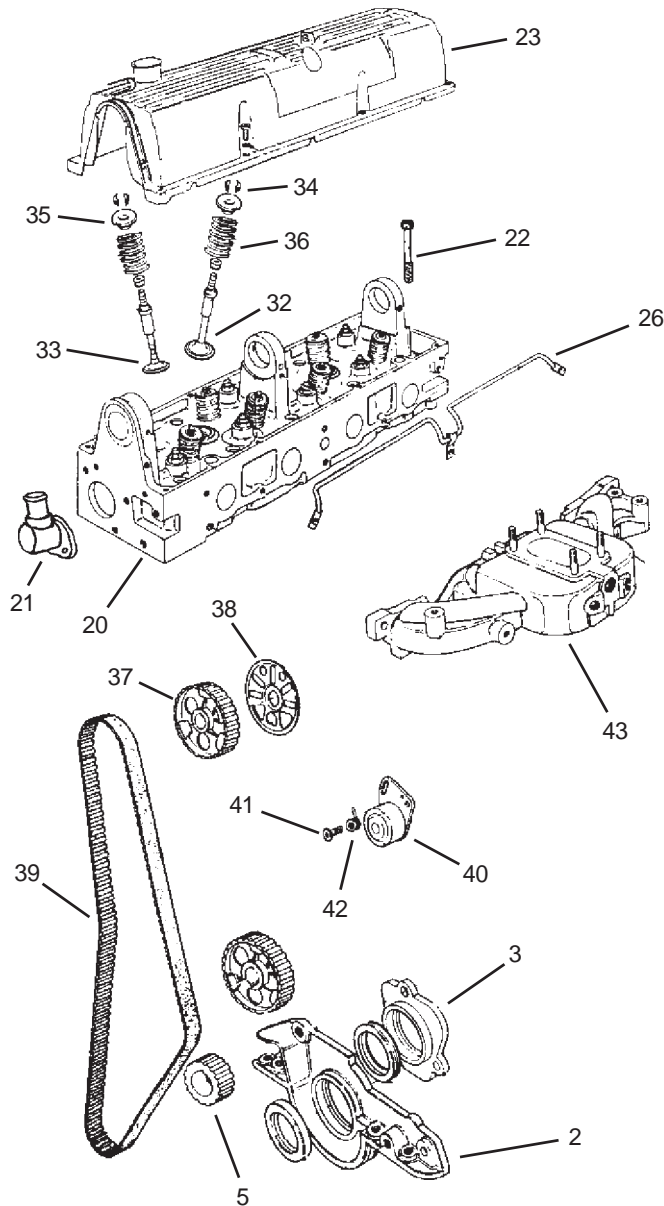


illustration part#

Camshaft- European Ford 85 Spec.	24	S5A
Camshaft- New 2010 Rules Spec	24	S5AL
Thrust Plate- Camshaft	25	S5J
Oil Spray Tube- Camshaft	26	S5ST
Cam Follower - each	27	S5B
Cam Follower - set 8	27	S5BA
Adjuster Clip	28	S5AC
Adjuster Nut	29	S5AN

**Tips from the Pros**

"We set the camshaft timing (2000 OHC) at 2 to 4 degrees retarded, usually ending up at 3 degrees. When removing and replacing the timing belt always mark the belt's direction of rotation." -Curtis Farley of CF Engines

Adjuster Stud	30	S5AS
Adjuster Spring H.D.	31	S5ASP
Valve Intake	32	S3HAF
Valve Exhaust	33	S31AF
Valve Lock (keeper)	34	S3D
Valve Spring Retainer	35	S3E
Race Valve Spring Set	36	S3FA
Valve Spring Cup		S3FC
Offset Cam Key 1 Degree		S5EA1
Offset Cam Key 2 Degree		S5EA2
Offset Cam Key 3 Degree		S5EA3
Offset Cam Key 4 Degree		S5EA4
Offset Cam Key 5 Degree		S5EA5
Sprocket- Camshaft / Aux. Shaft	37	S5F
Sprocket Guide Plate	38	S5FT
Cam Drive Belt	39	S5G
Cam Drive Belt H.D.	39	S5GA
Tensioner- Cam Drive Belt	40	S5I
Tensioner Bolt	41	S51B
Tensioner Spring	42	S51S
Intake Manifold	43	S8A
Intake Manifold (used)		S8AU

**Competition Engine Bearings**

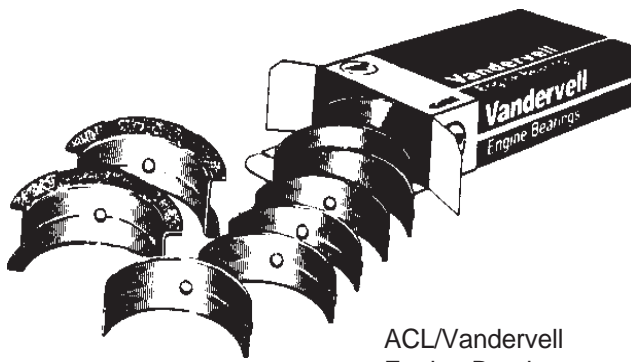
**1600 OHV "Kent" Engine**

Main Bearing Set STD.	F16A
Main Bearing Set +.010"	F16B10
Main Bearing Set +.020"	F16B20
Main Bearing Set +.030"	F16B30
Main Bearing Set +.040"	F16B40
Main Bearing Set +.050"	F16B50

**Tips from the Pros**

"We align hone all 1600 and 2000 cylinder blocks to high tolerance specification, finding that too much bearing clearance makes it difficult to hold race oil pressure. We use a maximum of .002" clearance on the mains and .0015"-.002" on the rods. This allows a low viscosity racing oil (preferably a 10W-30 synthetic) at a minimum running pressure of 35 psi on 1600 engines. 2000 ohc engines need 50 psi of oil pressure to ensure adequate cam and follower lubrication."

-Sandy Shamlian of QuickSilver Race Engines



ACL/Vandervell Engine Bearings

**1600 Engine Bearings Continued....**

**The following EC Main Bearings have +.0008" additional crankshaft clearance.**

Main Bearing Set EC STD	F16DSD
Main Bearing Set EC +.010"	F16E10
Main Bearing Set EC +.020"	F16E20
Main Bearing Set EC +.030"	F16E30

**The following EC Main Bearings are for +.015" align bored blocks and also have +.0008" additional crankshaft clearance.**

Main Bearing Set EC STD/+.015" align	F16F
Main Bearing Set EC +.010"/+.015" align	F16G10
Main Bearing Ser EC +.020/+.015" align	F16G20
Main Bearing Set EC +.030/+.015" align	F16G30

Rod Bearing Set STD.	F16H
Rod Bearing Set ( <i>Special EC .002"</i> )	F16HA
Rod Bearing Set +.010"	F16110
Rod Bearing Set +.020"	F16120
Rod Bearing Set +.030"	F16130
Rod Bearing Set +.040"	F16140
Rod Bearing Set +.050"	F16150
Thrust Washer Set STD.	F16K
Thrust Washer +.010"	F16L10
Thrust Washer +.0025"	F16L25
Thrust Washer +.005"	F16L005
Thrust Washer +.0075"	F16L75
Cam Bearing Set	F16M
Cam Bearing Set ( <i>Special +.020" Back</i> )*	F16MA
* for align bored cam journals	
Small End Bushing Set (Rods)	F16N

## **Competition Engine Bearings**

### **2000 OHC Engine Bearings**

Main Bearing Set STD	S16A
Main Bearing Set +.010"	S16B10
Main Bearing Set +.020"	S16B20
Main Bearing Set +.030"	S16B30

**The following Main Bearings are for +.015"/.40mm align bored blocks**

Main Bearing Set STD/+.015" align	S16F
Main Bearing Set +.010"/+.015" align	S16G10

Rod Bearing Set STD.	S16H
Rod Bearing Set +.010"	S16110
Rod Bearing Set +.020"	S16120
Rod Bearing Set +.030"	S16130
Thrust Washer Set	S16K
Cam Bearing Set	S16M
Cam Bearing Set ( <i>Special .015"=.40mm Back</i> )*	S16MA
* for align bored cam towers	



**Vandervell**  
**Engine Bearings**



#### **Condition - Oil Starvation**

##### **Bearing Appearance:**

Heavy discoloration and metal removal, often leading to seizure.

##### **Cause:**

Lack of oil leading to excessive heat generation. May be due to inadequate lubrication or improper bearing running clearances.

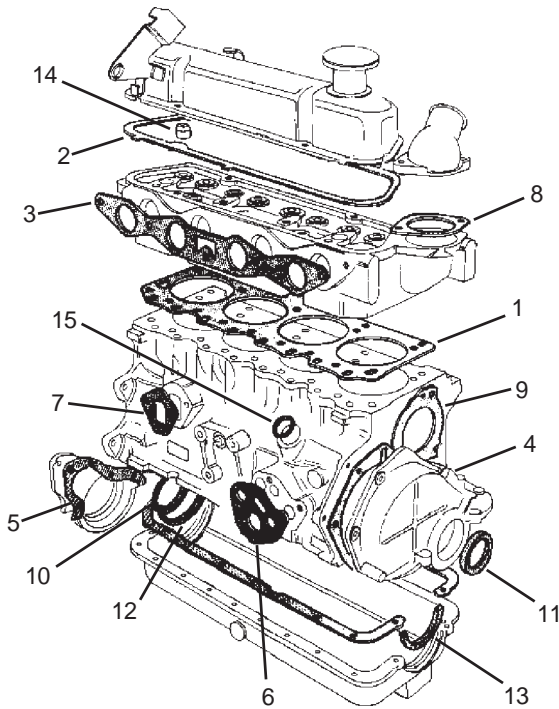
##### **Corrective Action:**

1. Regrind journal
2. Check oil pump and relief valve
3. Check oil ways for blockage
4. Check oil filter and by-pass valve
5. Check clearance if possible, otherwise check housing and journal sizes.
6. Replace with ACL/Vandervell bearings.

#### **Product Note:**

Engine bearings are strictly **ACL/Vandervell** lead-indium—simply the worlds finest. Please do not confuse these bearings with inferior reticular tin-aluminum bearings, regardless of whose name is on the box. Lead-indium bearings are the only type you will find in quality racing engines.

Also note that some Ford 1600 OHV and 2000 OHC cylinder blocks are factory align-bored +.015" on the crankshaft housing bore. Always check the old bearing shells, in most cases they will be marked, (example: Std/.015, .010/.015, .020/.015, .030/.015)



**Product Note:**

Gaskets listed on this page are legal for SCCA FF1600 & S2000 racing unless marked with an asterisk (\*)

**Gaskets**

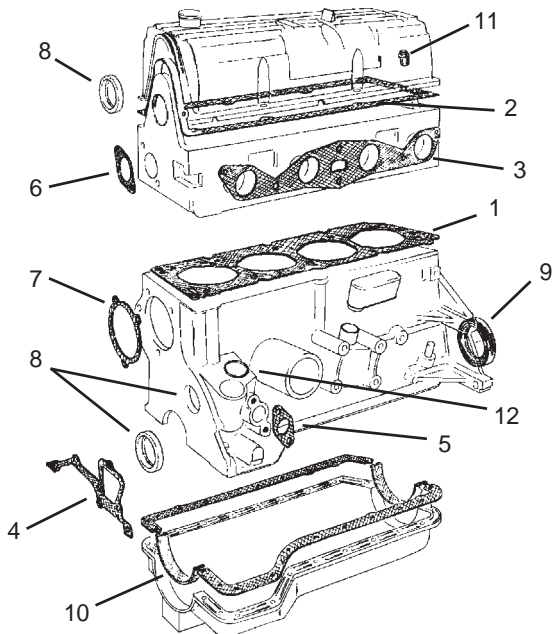
**1600 OHV Engine**

Full Gasket Set (includes head and lower set)		F15A
Head Set (head gasket and up)		F15B
Lower Set (parts below head gasket)		F15CL
Sump (pan) Set (rails & F/R pan seals)		F15C
Sump (pan) Set (rails w/cork pan seals)		F15CC
Head Gasket (Reinz) German	1	F15D
Head Gasket (Fel-Pro) USA	1	C15D
Head Gasket (Payen) England	1	F15DP
Valve Cover Gasket	2	F15E
Intake Manifold Gasket	3	F15F
Inlet/Exhaust Manifold Gasket (non X-Flow)		F15FA
Header Gasket (1 piece)		C15G
Carb. Base Gasket		F15H
Carb. Bowl Gasket 32/36 DGV		F15I
Front Cover Gasket	4	F15J
Rear Cover Gasket	5	F15K
Oil Pump Gasket	6	F15L
Fuel Pump Gasket	7	F15M
Water Neck Gasket	8	F15N
Water Pump Gasket	9	F15P
Rear Crank Seal	10	F15Q
Front Crank Seal	11	F15R
Rear Pan Seal	12	F15S
Front Pan Seal	13	F15T
Valve Stem Seal	14	F3G
Distributor "O" Ring	15	F9SL

**Gaskets**

**2000 OHC Engine**

Full Gasket Set- Ford/German		S15A
Head Set- Ford/German (head gasket & up)		S15B
Head Set- Alternate- (head gasket & up)		S15BA
Lower Engine Set- (parts below head gasket)		S15CL
Sump (pan) Set- (rails & F/R pan seals)		S15C
Sump (pan) Set- (with cork ends seals)		S15CC
Cylinder Head Gasket- Ford/German	1	S15D
Cylinder Head Gasket- Fel pro		S15DF
Valve Cover Gasket Early (narrow)	2	S15E
Valve Cover Gasket Late (wide)	2	S15EL
Intake Manifold Gasket	3	S15F
Header Gasket (one piece)		S15G
Carb. Base Gasket		F15H
Carb. Bowl Gasket 32/36 DGV		F15I
Front Cover Gasket	4	S15J
Fuel Pump Gasket	5	S15M
Water Neck Gasket	6	S15N
Water Pump Gasket	7	S15P
Oil Seal Cam/F.Crank/Aux. Shaft	8	S15R
Oil Seal Rear Crankshaft	9	F15Q
Seal Oil Pan Front or Rear	10	S15S
Valve Stem Seal	11	F3G
Distributor "O" Ring	12	S9SL





1600 Kent Tech. Info.

**Race Engine Clearances:**

Main Bearings .....	.002"
Con Rod Bearings .....	.0015"-.002"
Camshaft Bearings .....	.002"-.0023"
Piston to Cylinder Wall .....	.004"-.0045"
Top Ring End Gap .....	.015"
Crankshaft End Float .....	.005"-.011"
Camshaft End Float .....	.004"-.0075"
Wrist Pin .....	.0002"-.0003"
Intake Valve Stem .....	.002"
Exhaust Valve Stem .....	.0025"
Intake Valve Lash .....	.012"
Exhaust Valve Lash .....	.022"

**Race Engine Torque Specs:**

Head Bolt .....	75 lbs. ft.
Main Cap Bolt .....	70 lbs. ft.
Rod Cap Bolt (std.) .....	35 lbs. ft.
Rod Cap Bolt (HD) .....	43 lbs. ft.
Flywheel Bolt .....	54 lbs. ft.
Pressure Plate Bolt .....	15 lbs. ft.
Rocker Shaft Bolt .....	30 lbs. ft.
Camshaft Bolt .....	15 lbs. ft.
Thrust Plate Bolt .....	3.5 lbs. ft.
Chain Tensioner Bolt .....	7 lbs. ft.
Oil Pump Bolt .....	15 lbs. ft.
Oil Sump Bolt .....	8 lbs. ft.
Front Cover Bolt .....	7 lbs. ft.
Rear Cover Bolt .....	15 lbs. ft.
Water Pump Bolt .....	7 lbs. ft.
Water Neck Bolt .....	15 lbs. ft.
Crankshaft Pulley Bolt .....	28 lbs. ft.
Fuel Pump Bolt .....	15 lbs. ft.
Rocker Cover Screw .....	3.5 lbs. ft.
Intake Manifold Bolt .....	15 lbs. ft.
Exhaust Manifold Bolt .....	15 lbs. ft.
Carb to Manifold Nut .....	15 lbs. ft.
Spark Plug .....	25 lbs. ft.

**Race Engine Clearances:**

Main Bearings .....	.002"
Con Rod Bearings .....	.0015"-.002"
Camshaft Bearings .....	.0018"-.0026"
Piston to Cylinder Wall .....	.005"
Top Ring End Gap .....	.015"
Crankshaft End Float .....	.0032"-.011"
Camshaft End Float .....	.0016"-.0047"
Wrist Pin .....	.0007"-.00153"
Intake Valve Stem .....	.002"
Exhaust Valve Stem .....	.0025"
Intake Valve Lash .....	.010" Cold
Exhaust Valve Lash .....	.012" Cold

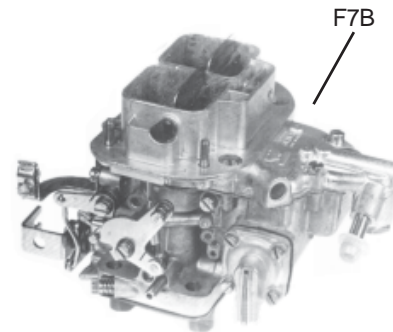
**Race Engine Torque Specs:**

Head Bolt .....	85 lbs. ft.
Main Cap Bolt .....	75 lbs. ft.
Rod Cap Nut .....	35 lbs. ft.
Flywheel Bolt .....	50 lbs. ft.
Pressure Plate Bolt .....	15 lbs. ft.
Oil Sump Bolt .....	8 lbs. ft.
Rocker Cover Bolt .....	5 lbs. ft.
Front Cover Bolt .....	13 lbs. ft.
Water Neck Bolt .....	15 lbs. ft.
Camshaft Sprocket Bolt .....	35 lbs. ft.
Crankshaft Pulley Bolt .....	28 lbs. ft.
Intake Manifold Bolt .....	15 lbs. ft.
Exhaust Manifold Bolt .....	15 lbs. ft.
Carb to Manifold Nut .....	15 lbs. ft.
Spark Plug .....	20 lbs. ft.

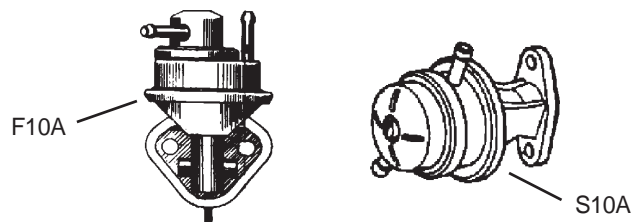
2000 OHC Tech. Info.

**Fuel System**

Fuel Pump 1600 OHV	F10A
Fuel Pump* 1600 OHV (cast body/adjustable inlet)	F10AA
<i>*provided with -6AN male fittings inlet/outlet</i>	
Fuel Pump 2000 OHC	S10A
Fuel Pump 2000 OHC (cast body/adjustable inlet)	S10AA
Fuel Pump Push Rod 2000 OHC	S10P
Fuel Pump Facet Electric	F10FE
Fuel Pump Facet Electric (blue top)	F10FB
Weber 32/36 DGV Carburetor 1600/2000	F7B
Race Prepped Weber 32/36 DGV Carb.	F7BP
Weber Minor Repair Kit* DFM	F7C
Weber Minor Repair Kit* DGV	F7E
<i>*gaskets, seals, accel pump, needle/seat, float</i>	
Float DGV (brass)	F7F
Float DGV (plastic)	F7FP
Emulsion Tube F6 DGV	F71
Emulsion Tube F5 DGV	F71-5
Accel Pump Diaphragm DGV	D7PD
Gasket Carb Bowl DGV	F151
Sync-Link Kit* (simultaneous linkage for DGV)	F7SL
<i>*includes: link ends, spacers and dual pump jet</i>	



This Formula Ford induction system features a **Weber 32/36 DGV (F7B)**, with a **ITG 100mm Filter Assembly** mounted atop a **Updated type FF 1600 Intake Manifold (F8B)**.





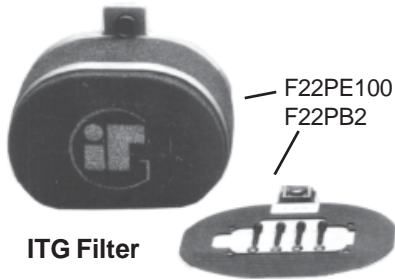
F10FE



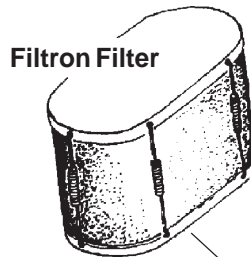
F10FB



C536PR

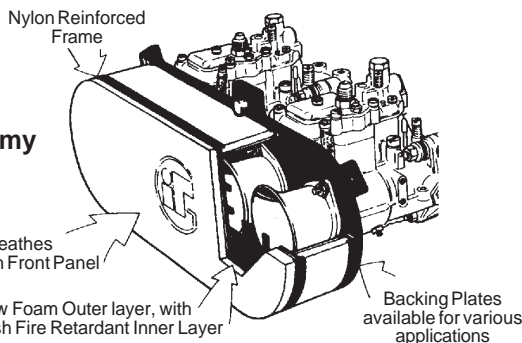


ITG Filter



Filtron Filter

F22A



ITG Filter Anatomy

Nylon Reinforced Frame

Filter Breathes Through Front Panel

High Flow Foam Outer layer, with Fine Mesh Fire Retardant Inner Layer

Backing Plates available for various applications

Main Jet #125	Weber 32/36 DGV	F7G125
Main Jet #130	Weber 32/36 DGV	F7G130
Main Jet #135	Weber 32/36 DGV	F7G135
Main Jet #140	Weber 32/36 DGV	F7G140
Main Jet #145	Weber 32/36 DGV	F7G145
Main Jet #150	Weber 32/36 DGV	F7G150
Main Jet #155	Weber 32/36 DGV	F7G155
Main Jet #160	Weber 32/36 DGV	F7G160
Main Jet #165	Weber 32/36 DGV	F7G165
Main Jet #170	Weber 32/36 DGV	F7G170
Main Jet #175	Weber 32/36 DGV	F7G175
Main Jet #180	Weber 32/36 DGV	F7G180
Main Jet #185	Weber 32/36 DGV	F7G185
Main Jet #190	Weber 32/36 DGV	F7G190
Main Jet #195	Weber 32/36 DGV	F7G195
Main Jet #200	Weber 32/36 DGV	F7G200
Air Jet #135	Weber 32/36 DGV	F7H135
Air Jet #140	Weber 32/36 DGV	F7H140
Air Jet #145	Weber 32/36 DGV	F7H145
Air Jet #150	Weber 32/36 DGV	F7H150
Air Jet #155	Weber 32/36 DGV	F7H155
Air Jet #160	Weber 32/36 DGV	F7H160
Air Jet #165	Weber 32/36 DGV	F7H165
Air Jet #170	Weber 32/36 DGV	F7H170
Air Jet #175	Weber 32/36 DGV	F7H175
Air Jet #180	Weber 32/36 DGV	F7H180
Air Jet #185	Weber 32/36 DGV	F7H185
Air Jet #190	Weber 32/36 DGV	F7H190
Air Jet #195	Weber 32/36 DGV	F7H195
Air Jet #200	Weber 32/36 DGV	F7H200
Air Jet #205	Weber 32/36 DGV	F7H205
Air Jet #210	Weber 32/36 DGV	F7H210
Air Jet #215	Weber 32/36 DGV	F7H215

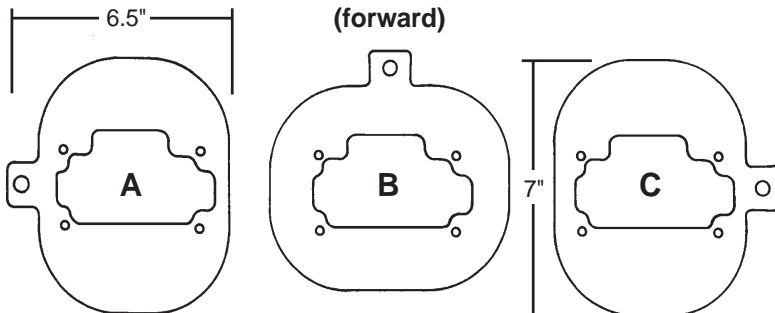
**Filtration**

Filtron Filter Assembly DGV	F22A
Filtron Standard Element 5"	F22B
Filtron Element 3.75"	F22D
Filtron Element 7"	F22E
Filtron Spring Pack	F22C
Filtron Oil Bottle (large)	F22G
ITG Filter Assembly (disposable type)	F22P1

**Product Note:**

The ITG air filters are an excellent choice for 1600 and 2000 engines using the Weber DGV carburetor. We offer 3 base plate versions and 4 filter heights ranging from 25 to 100mm. To order a complete filter kit simply choose the required base plate orientation and filter height to fit your requirements. We can also supply a wide range of base plates and filter sizes to fit other applications, call for more information.

ITG Element 100mm	F22PE10
ITG Element 150mm	F22PE15
ITG Element 65mm	F22PE65
ITG Element 40mm	F22PE40
ITG Element 25mm	F22PE25
ITG Base Plate Weber DGV (drawing A & C)	F22PB1
ITG Base Plate Weber DGV (drawing B)	F22PB2



ITG Weber DGV Filter Base Plates

## Electrical System

### 1600 OHV Ignition

	Illustration	Part#
Distributor Bosch- Points Type		F9AB
Distributor Bosch- Electronic		F9ABE
Distributor Bosch TFI- Electronic*		F9ABE2
<i>*includes: built-in electronic module &amp; wiring harness</i>		
Cap- Motorcraft	8	F9B
Cap- Bosch	1	F9BB
Cap- Bosch Electronic (male ends)		F9BBE
Cap- Bosch 90 Side-entry		F9BBS
Cap- Lucas		F9BL

#### Tips from the Pros

*"We find that a competitive FFord Engine needs between 38 to 40 degrees of total ignition advance."- Ted Wenz of Marcovicci-Wenz Engineering.*

Point Set- Motorcraft	11	F9E
Point Set- Bosch (high tension)	3	F9EBR
Point Set- Lucas		F9EL
Electronic Conversion Kit- for Bosch		F9EC
Electronic Conversion Kit- for Lucas		F9ECL
Electronic Conversion Kit- for Motorcraft		F9ECM
Rotor- Motorcraft	9	F9F
Rotor- Bosch	2	F9FB
Rotor- Bosch w/RPM Limiter		F9FBR
Rotor- Lucas		F9FL
Condenser- Motorcraft	10	F9G
Condenser- Bosch	4	F9GB
Condenser- Lucas		F9GL
Distributor Drive Gear- Bosch or Motorcraft	5	F9C
Distributor Drive Gear- Lucas		F9CL
Distributor O Ring- Bosch or Motorcraft	6	F9SL
Distributor Hold Down- Bosch	7	F9HD
Coil Lucas Sports		F9D
Coil Bosch 1.1 Ohm		F9DB
Spark Plug- FF1600 NGK		F539
Coil Bosch Blue Top		F9DA
Ignition Module Ford Type		C9M
Ignition System Racing* (for F9ABE)		C9U
<i>*includes: ignition module w/rev. limiter &amp; coil</i>		
Bosch TFI Module (for F9ABE2)		F9H
8mm Racing Wire Set (over valve cover)		F9HT
8mm Racing Wire Set (around front)		F9HTF
Coil Wire Kit 24" (for above)		F9HTC
Ignition Wire Separator		F9S

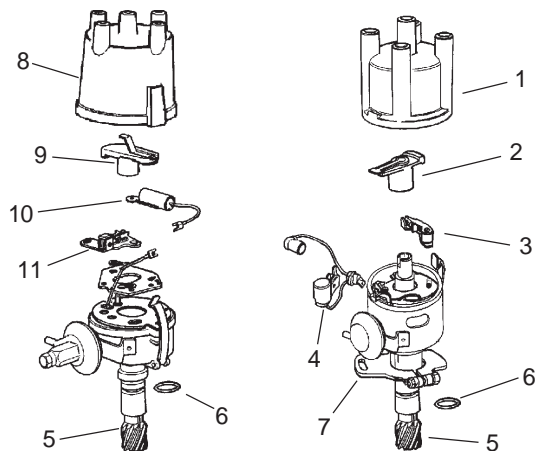
### 2000 OHC Ignition

Distributor Bosch-Points Type	S9A
Distributor Bosch Electronic	S9AE
Cap- Bosch (for S9A)	F9BB
Point Set- Bosch	S9E
Electronic Conversion Kit (for S9AB)	S9EC
Rotor- Bosch (for S9AB)	F9FB
Rotor- Bosch Electronic	S9FE
Ignition Condenser- Bosch (for S9AB)	S9G
Distributor Drive Gear	S9C
Distributor O Ring	S9SL
Ignition Module Motorcraft TFI	S9H
Distributor Plug-in Lead (for S9AB)	S9HL
8mm Racing Wire Set (over valve cover)	S9HT
8mm Racing Wire Set (around rear)	S9HTR
Coil Wire Kit 24" (for above)	F9HTC
Ignition System Racing* (for S9AE)	C9U

*\*includes: ignition module w/rev. limiter & coil*

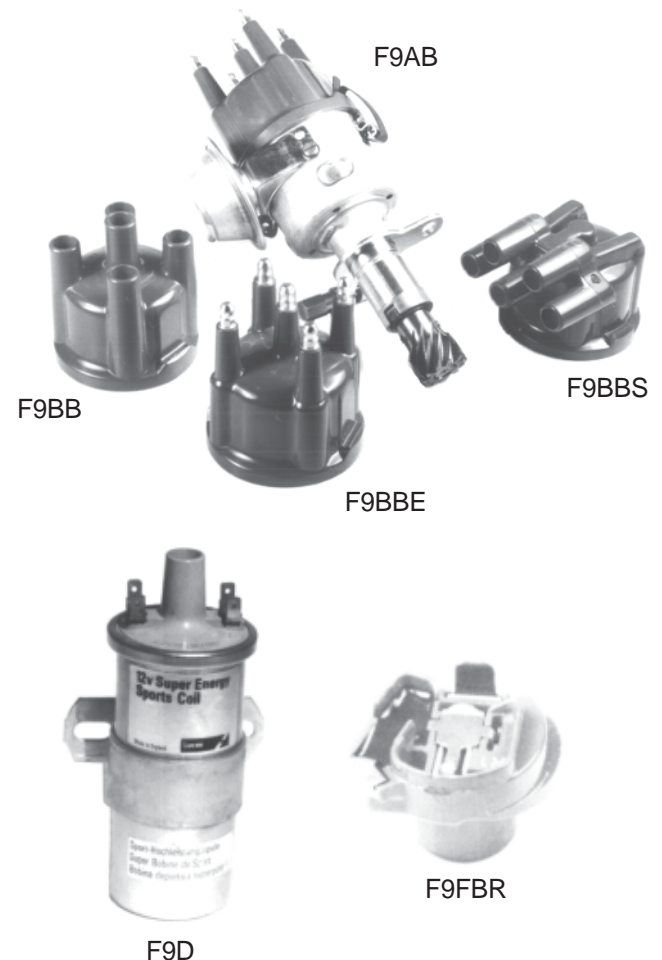
Motorcraft Distributor

Bosch Distributor

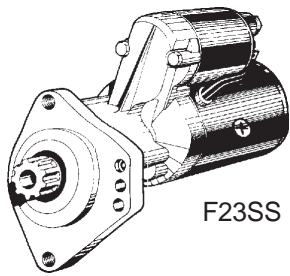


#### Product Note:

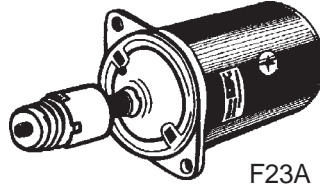
*Formula Ford 1600's come with either a Bosch, Motorcraft or Lucas distributor. Be sure to correctly identify the distributor before ordering, parts are **NOT** interchangeable between the makes. Also note that our 1600 Bosch points are of a higher spring tension for competition use.*







F23SS



F23A



F23C10



F23MS



F27A



F27B

**Product Note:**

These rugged mechanical gauges have 2 1/16" black faces and are illuminated. Temperature gauges are equipped with 7 foot long capillary tubes with 3/8" BSP adaptors. A 5/8" UNF adaptor is also available. Pressure gauges do not include tubing kits. Special hose ends are now available to plumb pressure with Aeroquip -3AN hose.

**Starter Motors**

- Starter Lucas 2 Bolt 9 Tooth F23A
- Starter Lucas 3 Bolt 10 Tooth F23B
- Starter Bendix 9 Tooth F23C9
- Starter Bendix 10 Tooth F23C10
- Starter Bendix Compressor Tool F23G
- Starter Bosch 3 Bolt 10 Tooth F23F
- Tilton Super Starter F23SS
- Tilton XLT Super Starter (7lbs lightweight) F23SL
- BAT Hi-torque Micro Starter (2 bolt) F23MS
- BAT HT Micro Starter- Adjustable (2 bolt) F23MA

**Product Note:**

The **Tilton Super Starter** and **BAT Micro Starter** types are high capacity vibration-resistant gear reduction starters which can be mounted in several orientations for optimum clearance. These starters are built tough, and will give much longer service than any other design. New for 2000, the **BAT Micro Adjustable** is designed with a special nose mounting plate with more index positions and easier mounting fastener access. This allows the starter to be used in "hard to fit applications" **Tilton** also offers the benefits of the super starter in a very light weight package the **Super Starter XLT**. **Tilton Super Starters** are also available for other high performance applications; call for more information.

**Master Electrical Switches**

- Kill Switch Lucas F27A
- Kill Switch Key Type F27B
- Kill Switch Key Type (Hella) F27BH

**Instrumentation**

**Gauges & Hardware**

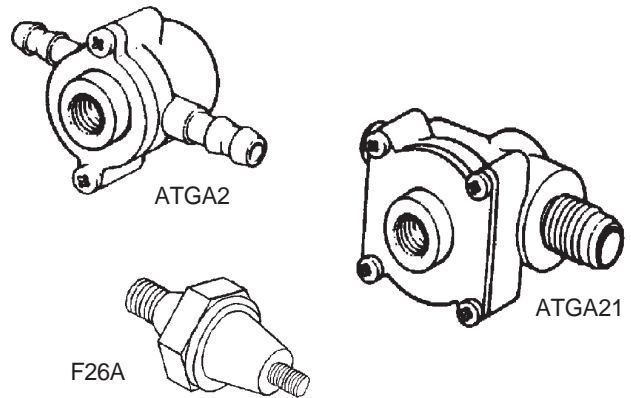
- Water Temp Gauge 110c F25ACR
- Oil Temp Gauge 140c F25BCR
- Oil Pressure Gauge 100psi F25C10
- Oil Pressure Gauge 160psi F25C16
- Dual Gauge 160psi/120c (temp) F25DC
- Dual Gauge 100psi/140c (oil) F25DCR
- Dual Gauge 100psi/110c (water) F25DCW
- Pressure Line 6 Foot (to 1/8" BSP) F25E
- Pressure Line 9 Foot (to 1/8" BSP) F25ER
- Hose End\* 1/8" BSP to -3AN Hose (straight) ABS3STF
- Hose End\* 1/8" BSP to -3AN Hose (45 degree) ABS345F
- Hose End\* 1/8" BSP to -3AN Hose (90 degree) ABS390F
- \*special hose end for connecting -3AN hose to the 1/8 BSP flat seal found on Smiths/Raceparts type gauges.
- Fitting 3/8" BSP x 3/8" UNF female/male F25FM
- Fitting 3/8" BSP x 5/8" UNF female/male F25FM5
- Fitting 3/8" BSP x 5/8" UNF male/male F25MM
- Fitting 1/8" BSP x 1/4" NPT male/male 4NF2BS





**Gauges & Hardware Cont...**

Fitting 3/8" BSP x 3/8" BSP male/male	BSM6-6
In line Temp Gauge Adaptor* 1/2" push-on	ATGA2
In line Temp Gauge Adaptor* 1/2 BSP female	ATGA2D
In line Temp Gauge Adaptor* AN-8	ATGA2H
In line Temp Gauge Adaptor* AN-10	ATGA21
In line Temp Gauge Adaptor* AN-12	ATGA2J
* Temp gauge adaptors have 5/8 UNF port	
Oil Pressure Switch 35psi	F26A
Oil Pressure Switch 20psi	F26B
Oil Pressure Switch Adjustable 15-60psi	F26C
Oil Pressure Tee 1/8" NPT	F26T
Warning Light	F26L
Early Warning System Kit	F26WS



**Tachometer Drives**

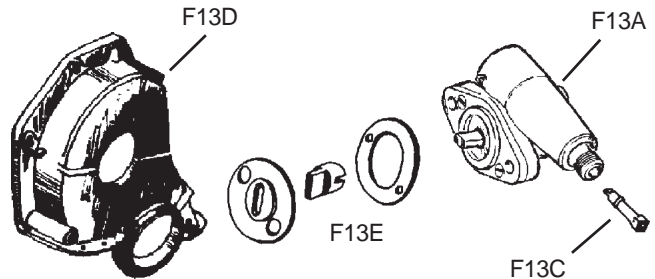
Tach Drive Gear Box FF1600 (brown)	F13A
Reversing Gear Box 2000 (black)	F13AA

**Product Note:**

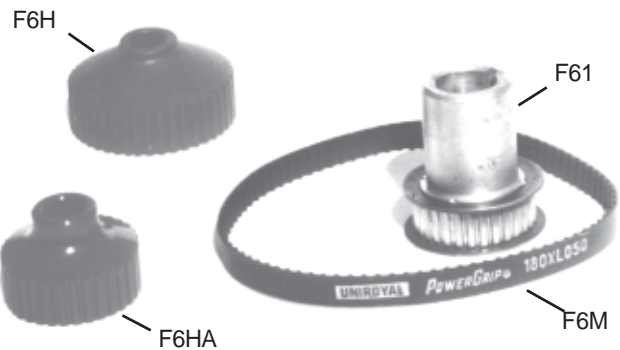
Cable driven Tachometers generally run at 1/4 crank speed. The Tach Drive Gearboxes mount the cable 90 degrees and reduce the rotation by 2:1. Thus a camshaft driven gearbox will achieve a total reduction of 4:1 (crank vs. cam=2:1). Our Tach Cables will fit all of our Gearboxes and all Smiths (directional) Tachs. Jones (non-directional) Tachs will require a small drive adaptor to run these cables.

Tach Cable 66 inch	F13B66
Tach Cable 72 inch	F13B72
Tach Cable 84 inch	F13B84
Tach Cable 96 inch	F13B96
Tach Cable 108 inch	F13B108
Cable Dog	F13C
Machined Front Cover- FF1600	F13D
3 Piece Mount & Drive	F13E
Side Tach Drive Mount*	F13F
*mounts at standard oil pump location, when using front cover mounted drysump pumps.	

**Tach Drive Components**



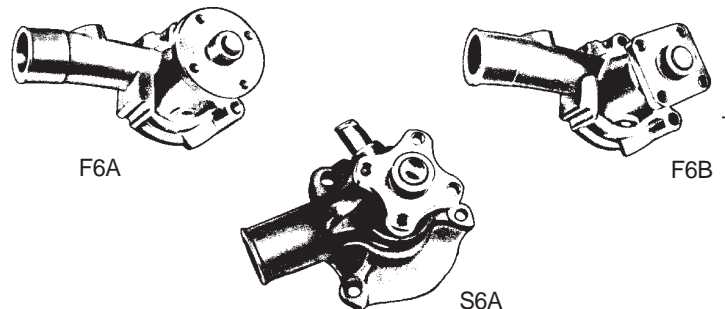
**Water Pump Drives**



**Cooling System**

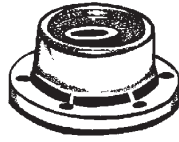
Water Pump 1600 OHV (.5" Shaft)	F6A
Water Pump 1600 OHV (.625" Shaft)	F6B
Water Pump 2000 OHC	S6A
Water Pump Light Alloy 2000 OHC	S6AA
Pulley 44 Tooth (.5" ID)	F6G
Pulley 34 Tooth (.5" ID)	F6GA
Pulley 44 Tooth (.625" ID)	F6H
Pulley 34 Tooth (.625" ID)	F6HA
Drive Belt 170 X L050	F6K
Drive Belt 180 X L050	F6M
Drive Belt 190 X L050	F6N
Drive Belt 190J Polly-V	S19VB
1600 Crankshaft Pulley	F61
2000 Crankshaft Pulley	S61

**Water Pumps**

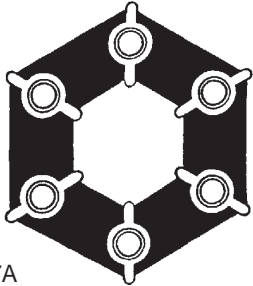




F17FB



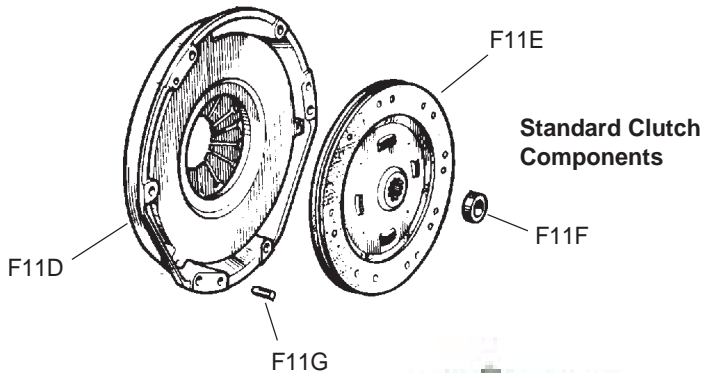
F17FA



F17A

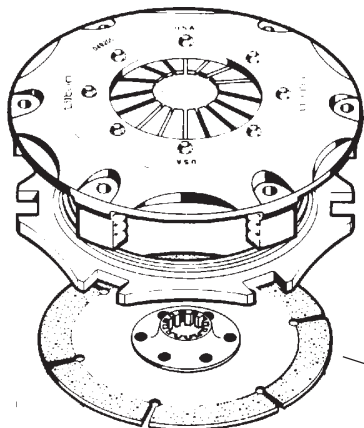


F17B



Standard Clutch Components

F11AQ



F11A  
Tilton OTII F3 Type  
Clutch Assembly

F11B (disk only)

## Powertrain

### Drive Joints

Drive Coupling FF (standard)	F17A
Drive Coupling FF (heavy duty)	F17B
Drive Coupling Large (FT200 type)	F17C
Universal Joint FF (small)	F17D
Universal Joint FF (large)	F17E
CV Joint FF	F17F
CV Joint FF (lightweight type)	F17FL
CV Boot (VW style)	F17FB
CV Boot (aero style)	F17FA

### 1600 OHV Clutch

Clutch Cover FF Std. Borg & Beck	F11D
Clutch Assembly F3 Tilton	F11A
Clutch Assembly F3 B&B (ring style)	F11AA
Clutch Assembly F3 Quarter Master V-drive	F11AQ
Clutch Disk 7.5" FF B&B Std.- 7/8" x20 spline	F11E
Clutch Disk 7.25" F3 Type- 7/8" x20 spline	F11B
Bolt Kit- Tilton F3 Clutch (to flywheel)	F11BK
Bolt Kit- Q/Master F3 Clutch (to flywheel)	F11BQ
Clutch Sliding Plate (ring type)	F11C
Pilot Bearing	F11F
Throw Out Bearing	WC26
Retaining Clip (for TOB)	WC27
Clutch Dowel	F11G
Clutch Alignment Tool- 7/8" x20 spline	F11H
Clutch Special FF1600	

*includes: standard type F11E Disk and Pressure Plate F11D* F11SPL

### 2000 OHC Clutch

Clutch Cover Std. Borg & Beck	S11D
Clutch Assembly F3 Tilton	S11A
Clutch Assembly F3 B&B (ring style)	S11AA
Clutch Assembly F3 Quarter Master V-drive	S11AQ
Clutch Disk 8.5" B&B Std.- 1" x23 spline	S11E
Clutch Disk 8.5"- 7/8" x20 spline	S11EA
Clutch Disk 7.25" F3 Type- 1" x23 spline	S11B
Bolt Kit- Tilton F3 Clutch (to flywheel)	F11BK
Bolt Kit- Q/Master F3 Clutch (to flywheel)	F11BQ
Pilot Bearing	F11F
Throw Out Bearing	WC26
Retaining Clip (for TOB)	WC27
Clutch Dowel	F11G
Clutch Alignment Tool- 1" x23 spline	S11H

#### Product Note:

BAT is a full line distributor for Tilton and Quarter Master Clutch and Flywheel components. Other clutch components such as alloy racing flywheels, 2 and 3 disk clutch packs, metallic carbon and ceramic clutch linings, and hydraulic release bearings are also available. We are happy to assist in your selection of these components for various racing applications.

## Dry Sump Equipment

### 1600 OHV Engine

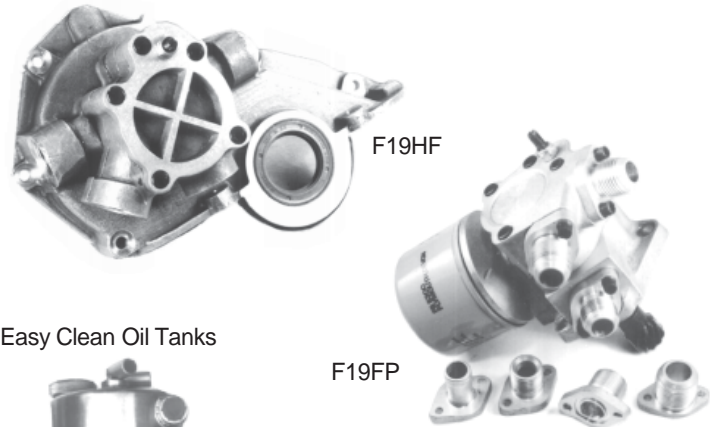
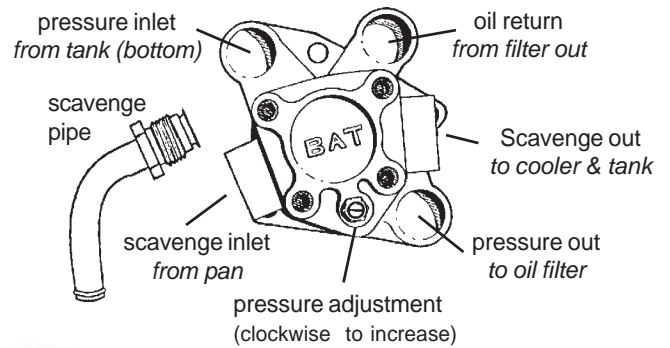
D/S Pump 5 Port Titan (7/8" scavenge - 5/8" pick-up)	F19T
D/S Pump 5 Port Pace (1" scavenge - 5/8" pick-up)	F19B
D/S Pump 5 Port Titan (1" scavenge - 3/4" pick-up)	F19T1
D/S Pump 5 Port Pace (with tach drive)	F19AT
D/S Filter Pump Pace (uses spin-on oil filter)	F19FP
Filter- Filter Pump Replacement	F19FF
D/S Pump Twin Scavenge	F19H
D/S Pump Front Mount Twin Scavenge	F19HF
Scavenge Tube & Nut 5/8" (for F19T & F19B pumps)	F19TA
Scavenge Tube 3/4" (clip in type for F19T1 pump)	F19TB
Dry Sump Pan FF1600 (steel) 5/8" pick-up	F19F
Dry Sump Pan FF1600 (alloy)	F19FA
Dry Sump Pan FF1600 (steel) 3/4" pick-up	F19FB
Dry Sump Pan Rope Seal Type (steel)	F19F
Dry Sump Pan Twin Scavenge (steel)	F19G
Crankshaft Scraper (bolts to pan rail)	F19CS
Filter Screen & Washer	F19FS
D/S Pump Rebuild Kit (for Filter Pump)	F19FPK
D/S Pump Rebuild Kit (for Pace F19B pumps)	F19KTP
D/S Pump Rebuild Kit (for Titan 7/8" pumps)	F19TKT
D/S Pump Rebuild Kit (for Titan 1" pumps)	F19TKT1
Pressure Rotor 5/8" & Shaft (for Pace pumps)	F19RS
Pressure Rotor 5/8" & Shaft (for Titan pumps)	F19RST
Pressure Rotor Set 5/8" (fits all pumps)	F195/8
Scavenge Rotor Set 7/8" (fits all pumps)	F197/8
Scavenge Rotor Set 1" (fits all pumps)	F198/8
Pump Scroll Gear	F19SG
Scroll Gear Set- Bronze (oil pimp & distributor)	F19SGB
Oil Tank Light Alloy (14.25" x 7.25")	F19D
Oil Tank Small Easy-Clean Type (14" x 6.5")	F19E
Oil Tank Medium Easy-Clean Type (14" x 8.25")	F19EM
Oil Tank Large Easy-Clean Type (16" x 9.5")	F19EL

### 2000 OHC Engine

Dry Sump Kit Pace*	S19SC
*includes: alloy pan with integral pump, pulleys, plumbing	
Dry Sump Kit Pace for Swift*	S19SK
*includes: pump, bracket, pulleys (less pan)	
Dry Sump Pump Pace (3 stage)	S19T
Dry Sump Kit Titan Series II (jackshaft driven)*	S19A
*includes: pump, steel pan, pulleys, plumbing	
Dry Sump Kit Titan Series II (above with alloy pan)	S19AB
Dry Sump Kit Titan Series II (above less oil pan)	S19AC
Dry Sump Kit Titan Series II (crankshaft driven)*	S19AD
*includes: pump, mounting for Swift, less oil pan	
Dry Sump Pump Titan Series II (3 stage)*	S19T2
*can be ordered with either 22T pulley or 30T pulley	
Dry Sump Oil Pan- Twin Scavenge (steel)	S19F
Dry Sump Oil Pan- Twin Scavenge (alloy)	S19FA
Crankshaft Scraper (bolts to pan rail)	S19CS
Filter Screen- Oil Pan	F19FS
Pulley- Crank Oil/Water Pumps	S61
Pulley- Crank Titan (15 Teeth)	S19DB
Pulley- Pump Pace (30 Teeth)	S19P
Pulley- Pump Titan (22 Teeth)	S19EJ
Pulley- Pump Titan (30 Teeth)	S19DP
Pulley- Pump Titan (32 Teeth)	S19PA
Pulley- Jackshaft Titan (22 Teeth)	S19J



Typical 5 Port Oil Pump Plumbing



Easy Clean Oil Tanks



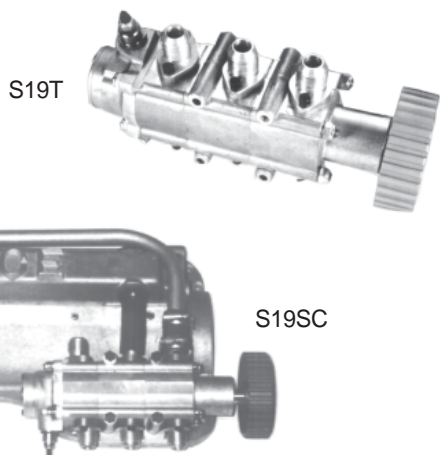
F19E



BSP and -AN Oil Fittings

All drysump ports are BSP (British standard pipe) parallel thread. BAT stocks a complete range of BSP hose ends and adaptors. If you prefer using the Aeroquip system we can supply BSP to AN adaptors for easy conversion. This is covered in our MOCAL oil control catalog.





**2000 OHC Drysump (cont.)**

Belt 187L x 050	S19BS
Belt 210L x 075	S19B
Belt 225L x 075	S19BL
Pump Rotor (specify Pace or Titan)	S19R
Pump Shaft (specify Pace or Titan)	S19S
Pump Seal Kit (specify Pace or Titan)	S19K
Pressure Relief Assembly (specify Pace or Titan)	S19PR
Flange Fitting AN-8 (specify Pace or Titan)	AFAN8
Flange Fitting AN-10 (specify Pace or Titan)	AFAN10
Flange Fitting AN-12 (specify Pace or Titan)	AFAN12
Flange Fitting 1/2 BSP (specify Pace or Titan)	AFBS8
Flange Fitting 5/8 BSP (specify Pace or Titan)	AFBS10
Flange Fitting 5/8 push-on (specify Pace or Titan)	AFST10
Flange Fitting 3/4 push-on (specify Pace or Titan)	AFST12

**Dry Sump Tech Info**

Dry sump systems may seem overly complex at first, but they are really quite simple in operation. Basically the idea is to be able to evacuate more oil from the engine than can be delivered. This keeps the crankcase or sump "dry" and reduces the amount of oil being whipped up (windage) giving more power and cutting down on crankcase pressures. Generally this is achieved with a double pump which has a larger scavenge section than pressure section. Most racing pumps will have an adjustable pressure relief valve which will allow accurate setting of the oil pressure to compensate for temperature and wear. Some pumps such as those used on the 2000 OHC engines have two scavenge sections to increase the scavenge volume. These pumps must be used with a sump which has two oil pick-ups, and conversely a sump with two pick-ups must be used with a twin scavenge oil pump.

Dry sump pumps for engines based on the Ford push-rod blocks such as Formula Ford, Twin-Cam, BDA, MAE etc. are generally either mounted on the side of the engine and driven by skew gear off the camshaft, or are front mounted and driven directly off the nose of the camshaft. Side mount pumps are very compact and require no additional clearance in front of the engine (they must be used on Twin-Cam and BDA engines). However, the skew gears are costly in terms of power absorbed to drive the pump. Front mounted pumps are popular on engines which lay over on their sides such as an MAE and they allow the use of very large scavenge sections because they are driven by roller chain from the nose of the camshaft.

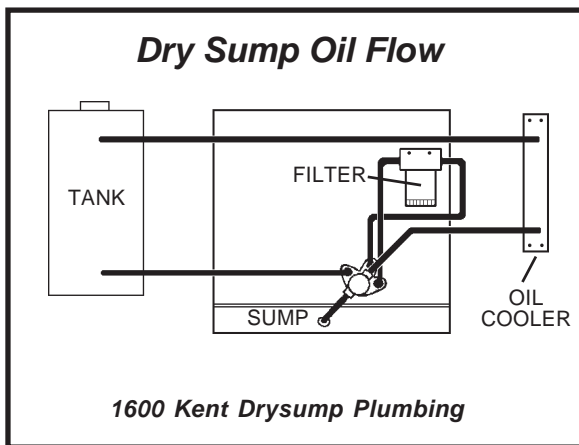
2000 OHC Engines use dry sump pumps driven by a reinforced toothed belt and mount along side the engine in various locations. All of these systems use a three stage pump with two scavenge stages and a twin pick-up pan. Not all of these pumps use the same pulley sizes, but all use the same pulley ratio of 1/2 crankshaft speed in order to drive a tachometer gearbox if necessary. Naturally a twin scavenge belt driven pump has the potential of becoming quite a bulky assembly, but recent developments have resulted in much more compact and efficient designs.

In operation, oil drawn from the engine sump is then sent to a holding tank usually by way of an oil cooler. Since the oil is a frothy mix of oil and foam, the oil tank should be designed to de-aerate this oil and maintain a solid head of oil ready to supply the engine. There

should also be a breathing space provided in the tank and provision to vent this space to a catch can. The pressure stage of the pump will then draw de-aerated oil from the bottom of the oil tank and supply this oil under pressure to an oil filter. From here the oil will be delivered to the engine's main oil galley. Another option would be to fit the oil cooler after the oil filter on the return, the theory being the de-aerated oil will cool more efficiently.

The most efficient oil pumps are of the Gerotor type as opposed to the simple gear pump. Gerotor pumps move more oil for their size, and more importantly they aerate the oil less than the gears on a gear pump. To maintain this efficiency the internal running clearances in the pump must not be too great or else there will be a dramatic pressure drop. In normal conditions a pump will wear very little if any at all, but should an engine experience some sort of internal failure a lot of gritty oil can pass through the pump very quickly and serious damage can result. Fortunately, oil pump components, rotors, and overhaul kits are available from us which will allow you to service or even reclaim a substandard oil pump.

We have basically two types of dry sump pans available. These pans are either fabricated from sheet steel or cast aluminum. The sheet steel pans have the advantage of being less expensive and more durable, but many later cars are using the sump as a structural chassis member and thus a special cast aluminum pan with bosses



to accept chassis mounting may be required. These light alloy pans usually have a removable windage tray which makes them easier to clean. Any good sump should have an internal screen to trap any debris which would otherwise be sucked into the pump. All of our sump pans have externally removable filter screens which can be easily cleaned and replaced.

When starting a dry sump engine for the first time after engine installation it is essential to ensure that there is unrestricted oil flow through all oil lines. This means no kinked or crushed hoses. With the oil tank filled oil should issue freely from the hose end which provides oil to the pressure-in side of the pressure pump stage. If the tank is located far from the engine as on some older cars with front mounted oil tanks it often helps to raise the front of the car a couple of feet when cranking the engine over to establish initial oil pressure.



## **Brake Tech Info**

Most FF1600 and S2000 cars come equipped with either Girling or Lockheed (AP Racing) brake components. Some cars such as the Zink Z10 use an ATE brake caliper. Early FFs usually had either the small (528) Girling 12SP caliper or the larger (533) 14LF caliper. The 12SP caliper is easily identified because it has only two bridge bolts which hold the caliper halves together. The 14LF caliper uses four bridge bolts.

There are generally three types of Lockheed calipers used. The smallest caliper is generically called the LD19 type and is currently almost universal on Formula Fords and even some 2000 cars. The bigger brother of this caliper or LD20 type is mostly found on 2000 cars and the newest caliper, the four piston LD65 "Metro" caliper is only found on 2000 cars.

There is a vast selection of brake pad compounds available for all of these calipers to suit the requirements of various tracks and drivers. The one cardinal rule is to never, never mix different brake compounds front and rear on a race car. We offer brake pads in a wide range of compounds and heat ranges from Ferodo, Mintex, and a number of Carbon Kevlar and Carbon Metallic manufacturers. With the decline of asbestos worldwide many of the familiar older racing compounds are being replaced with new non-asbestos versions. Some of the earliest asbestos-free pads on the market were not very good, obviously holdovers until better versions could be developed. However the latest racing pad offerings by both Mintex and Ferodo are now very good. Mintex offers the new 1144 non-asbestos material as a replacement for both 171 and 121 compounds offering very similar performance characteristics. Ferodo is now offering non-asbestos 3466F and 4003F compounds that replace their popular 2430 and DS11 compounds. When selecting brake pads we recommend consulting our staff if you are unsure of your requirements.

Master cylinders and brake calipers can be overhauled using kits manufactured by either Girling or Lockheed and new caliper pistons are now available in stainless steel to replace the original chrome plated pistons. When overhauling brake calipers it is strongly advised by the manufacturers to not split the caliper apart.

## **Brake Compound Info**

**Mintex M1144** (replaces 171) is a non-asbestos resin bonded low-metallic friction material utilizing a blend of specialized steel/acrylic fibres. M1144 has a high coefficient of friction (.44) throughout a wide operating temperature range (up to 650c) with excellent feedback "pedal feel". M1144 is factory "burnished" for easy break-in and minimal fade on the first heating cycle. Both fade and wear characteristics are excellent.

**Carbon Kevlar** pad material offers superior fade resistance and a high coefficient of friction (.44-.49) throughout a wide temperature range (to 750c). Material is bonded to the backing plate with a ceramic insulator and pads come pre-burnished for ease of break-in. Pad material has excellent wear characteristics and is equally "rotor friendly".

Master cylinders and calipers usually suffer more from sitting idle between race seasons than any other cause. Since competition brake fluid can readily absorb moisture from the atmosphere the biggest threat to a hydraulic system is corrosion of the pistons and calipers, master or slave cylinders. The corroded piston either sticks or scores the bore it rides in with obvious results. The solution is to store your racer in a dry environment or "exercise" the hydraulics frequently during the off season.

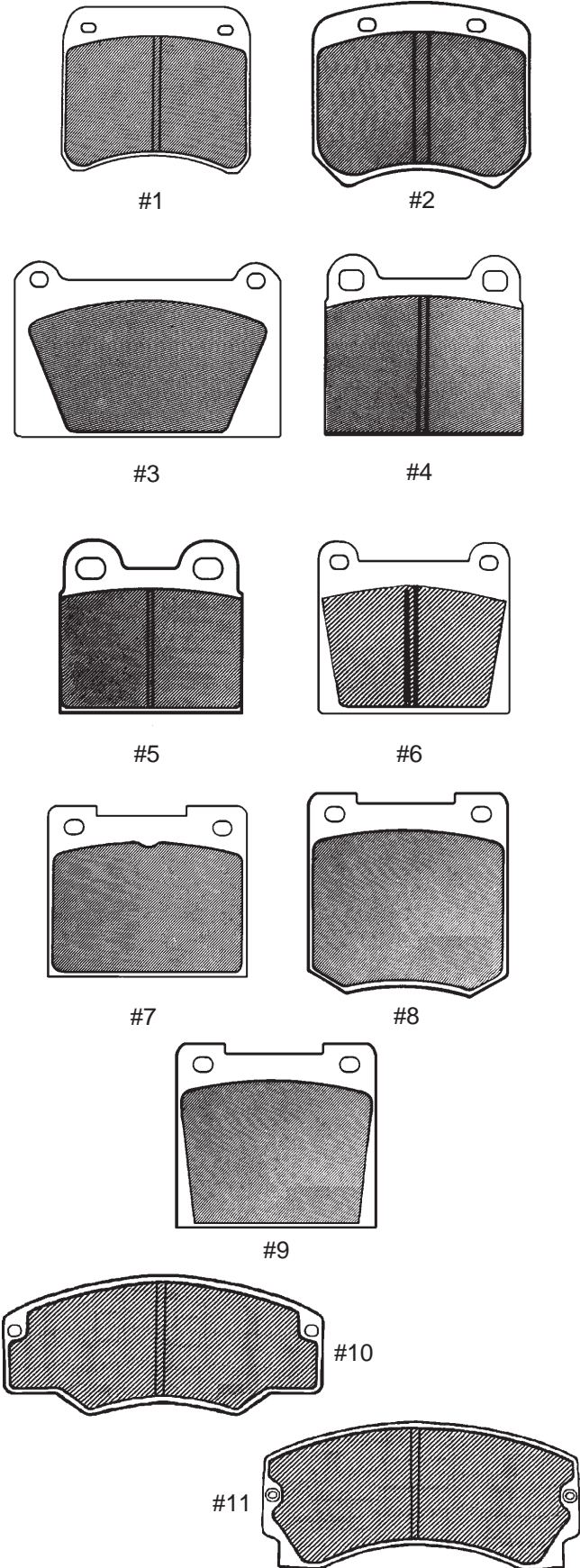
We strongly advise against the use of silicone brake fluid on a race car. There are two compelling reasons for this. First, silicone fluid has the unusual property of becoming slightly compressible at high temperatures. This results in a spongy pedal at the worst possible time. Secondly, silicone brake fluid has the ability to "creep" under rubber seals. The problem here is that brake caliper pistons depend on seal hysteresis, or drag to retract the piston after a brake application. Since silicone fluid creeps under the seal lip the piston just slides on the seal and does not retract properly. The result is pad drag on the rotor. Use a good competition brake fluid like AP 550 which is formulated for British brake systems and is ideal for FF1600 and 2000 cars.

Sometimes it is necessary to change the hydraulic ratio between master cylinder and caliper or slave cylinder to achieve a different result. Increasing the master cylinder size will increase brake effort, but reduce travel. Decreasing master cylinder size will give less pedal effort and a longer stroke. This of course assumes that the caliper piston size is unchanged. For example, a car which ends up always having its brake balance adjuster all the way to one side or another may benefit from a different master cylinder size. The same rules apply to a hydraulic clutch as well, thus if a driver complains of too much pedal travel to release the clutch, a larger master cylinder could be fitted, but there will also be corresponding increase in pedal effort. We highly recommend using -3 Aeroquip brake hoses, and a large selection of specialized brake fittings is available for British calipers and master cylinders. Laying out and fitting these systems is a very specialized matter and we recommend consulting our staff with your requirements.

**Ferodo 3466F** (replaces 2430) utilizes a non-asbestos base of steel filaments dispersed randomly within a blend of selected modifying agents and a special impregnant. 3466F has a high coefficient of friction (.42) throughout its operating temperature range (up to 500c). Wear characteristics for pads is very good with good feedback "pedal feel".

**Ferodo 4003F** (replaces DS11) utilizes a non-asbestos blend of selected friction materials in a complex matrix consolidated with a specially developed impregnate. 4003F has a high coefficient of friction (.42) throughout its operating temperature range (up to 750c). 4003F is particularly suited to severe duty applications and is not physically damaged by moderate oil contamination. Both fade and wear characteristics are excellent.

**Racing Brake Pads**



Pad Set LDB19 Ferodo 4003F	1	F14A
Pad Set LDB19 Ferodo DS2000	1	F14A2
Pad Set LDB19 Ferodo 3466F	1	F14AB
Pad Set LDB19 Ferodo 3410AF	1	F14AF
Pad Set LDB19 Carbon Kevlar (medium)	1	F14AK
Pad Set LDB19 Carbon Kevlar (hard material)	1	F14AKH
Pad Set LDB19 Mintex 1144	1	F14M4
Pad Set LDB19 Mintex 1155	1	F14M5
Pad Set LDB19 Mintex 1166	1	F14M6
Pad Set LDB20 Ferodo 4003F	2	F14B
Pad Set LDB20 Ferodo DS2000	2	F14B2
Pad Set LDB20 Ferodo 3410AF	2	F14BB
Pad Set LDB20 Carbon Kevlar (medium)	2	F14BK
Pad Set LDB20 Carbon Kevlar (hard material)	1	F14BKH
Pad Set LDB20 Mintex 1144	2	F14BM4
Pad Set LDB20 Mintex 1155	2	F14BM5
Pad Set LDB20 Mintex 1166	2	F14BM6
Pad Set LDB65 Ferodo 4003F	3	F14JF
Pad Set LDB65 Carbon Kevlar (medium)	3	F14JK
Pad Set LDB65 Mintex 1144	3	F14JM
Pad Set FDB2 Ferodo 4003F	4	F14H
Pad Set FDB2 Ferodo DS2000	4	F14H2
Pad Set FDB2 Ferodo 3466F	4	F14HB
Pad Set FDB2 Ferodo 3434F	4	F14HH
Pad Set FDB2 Carbon Kevlar (medium)	4	F14HK
Pad Set FDB2 Carbon Kevlar (hard material)	4	F14HKH
Pad Set FDB2 Mintex 1144	4	F14HM
Pad Set FDB3 Ferodo 4003F	5	F14C
Pad Set FDB2 Ferodo DS2000	5	F14C2
Pad Set FDB3 Ferodo 3434F	5	F14CC
Pad Set FDB3 Carbon Kevlar (medium)	5	F14CK
Pad Set FDB3 Carbon Kevlar (hard material)	5	F14CKH
Pad Set FDB3 Mintex 1144	5	F14CM
Pad Sets GDB528*	6	
(*use GDB533 pad and modify backing plate to fit)		
Pad Set GDB533 Ferodo 4003F	7	F14D
Pad Set GDB533 Ferodo 3403AF	7	F14DAF
Pad Set GDB533 Ferodo 3466F	7	F14DD
Pad Set GDB533 Carbon Kevlar (medium)	7	F14DK
Pad Set GDB533 Carbon Kevlar (hard material)	5	F14DKH
Pad Set GDB533 Mintex 1144	7	F14DM
Pad Set GDB535 Ferodo 4003F	8	F14E
Pad Set GDB535 Ferodo 3466F	8	F14EE
Pad Set GDB535 Mintex 1144	8	F14EM
Pad Set GDB538 Ferodo 4003F	9	F14G
Pad Set GDB538 Ferodo 3466F	9	F14GG
Pad Set MDB1200 Mintex 1144	10	F14TM
Pad Set MDB 1201 Mintex 1144	11	F14TMS

# Hydraulics

## Master Cylinder Components

Master Cylinder Girling .625"	MCG62
Master Cylinder Girling .70"	MCG70
Master Cylinder Girling .75"	MCG75
Master Cylinder Girling Remote Reservoir*	MCG_R
*add (R) to above part numbers MCG62R, 70R, 75R	
Master Cylinder Cap Girling Large	MCGCL
Master Cylinder Cap Girling Small	MCGCS
Reservoir Extension Girling Small	MCRG1
Moisture Barrier Girling Small	MBG1
Master Cylinder Lockheed .625"	MCL62
Master Cylinder Lockheed .70"	MCL70
Master Cylinder Lockheed .75"	MCL75
Master Cylinder Lockheed Large Reservoir*	MCL_L
*add (L) to above part numbers MCL62L, 70L, 75L	
Master Cylinder Lockheed Remote Reservoir*	MCL_R
*add (R) to above part numbers MCL62R, 70R, 75R	
Master Cylinder Cap Lockheed	MCLC
Reservoir Extension Lockheed	MCRL1
Extension "O" Ring	MCRL2

**Product Note:**

The following Lockheed series 4600 Master Cylinders will be the eventual replacement for the original "tin tank" models used on many formula cars. This new range of master cylinders feature a removeable 7.04 fl. oz. plastic reservoir, four available bore sizes, and standard 4.50" long pushrod with 5/16" UNF. We will continue to support both old and new Lockheed master cylinder types for as long as components remain available.

Master Cylinder Lockheed .625"	MCL62B
Master Cylinder Lockheed .75"	MCL75B
Master Cylinder Lockheed .875"	MCL87B
Master Cylinder Lockheed 1.0"	MCL10B

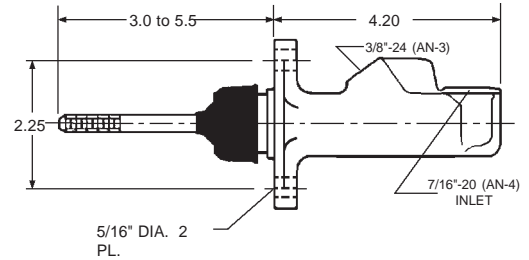
## Master Cylinder Repair

Master Cylinder Kit Girling .625"	RKG62
Master Cylinder Kit Girling .70"	RKG70
Master Cylinder Kit Girling .75"	RKG75
Master Cylinder Kit Lockheed .625"	RKL62
Master Cylinder Kit Lockheed .70"	RKL70
Master Cylinder Kit Lockheed .70" (Annular)	RKL70A
Master Cylinder Kit Lockheed .75"	RKL75
Master Cylinder Kit Lockheed .75" (Annular)	RKL75A
Brake Assembly Grease	MBAG

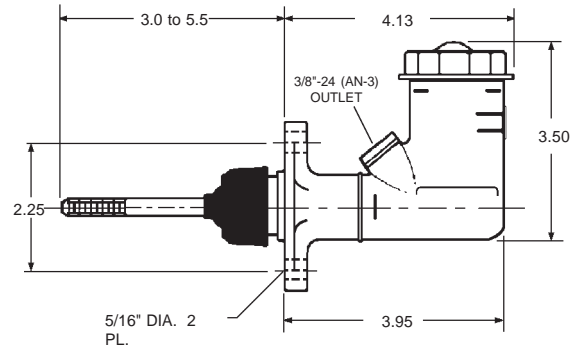
## Brake Fluid Reservoirs

Small Tin Tank (75cm <sup>3</sup> ) 5/16" push-on	MFR1
Medium Plastic Tank (185cm <sup>3</sup> ) 5/16" push-on	MFR2
Large Plastic Tank (210cm <sup>3</sup> ) 5/16" push-on	MFR3

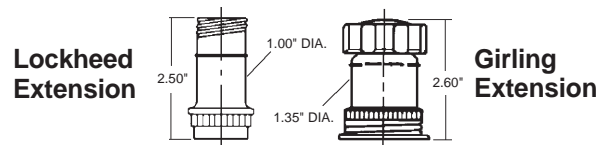
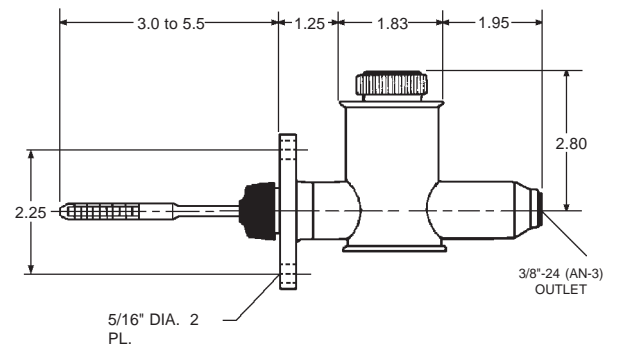
**Girling Remote Master Cylinder**



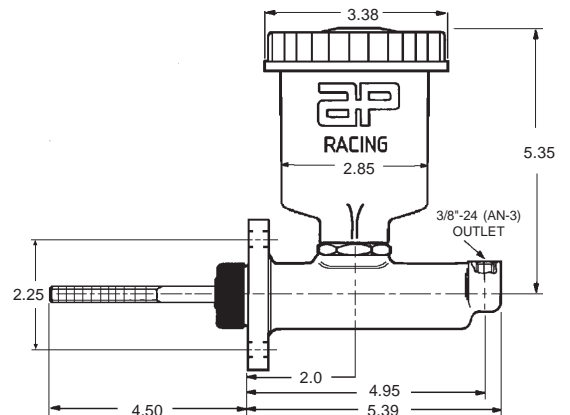
**Girling Master Cylinder**



**Lockheed Master Cylinder**

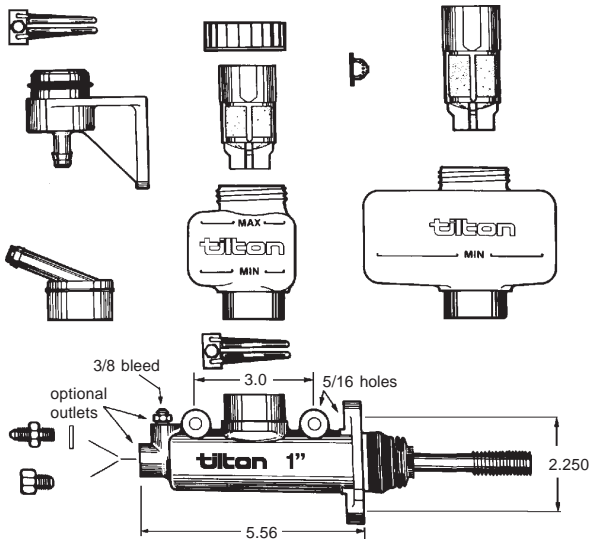


**Lockheed 4600 Master Cylinder**

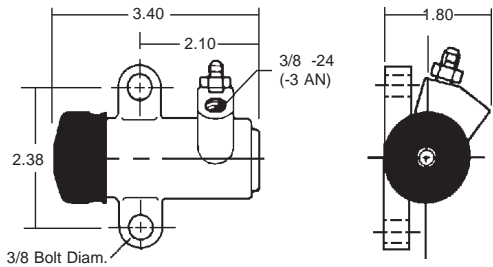




**Tilton Master Cylinder Kit**



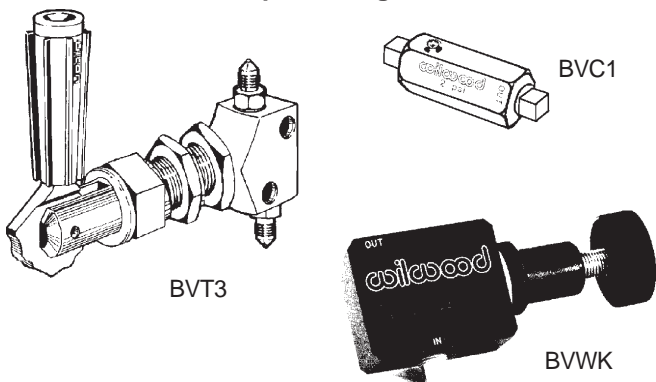
**Girling Slave Cylinder**



**Racing Brake Fluid**



**Brake Proportioning Valves**



**Master Cylinder Kits**

Master Cylinder Tilton Kit .625"	MCT62
Master Cylinder Tilton Kit .70"	MCT70
Master Cylinder Tilton Kit .75"	MCT75
Master Cylinder Tilton Kit .875"	MCT87
Master Cylinder Tilton Kit 1.0"	MCT10
Master Cylinder Tilton Kit 1.125"	MCT125

**Disk & Caliper Components**

FF1600 AP Brake Disk	F425
FF1600 AP Brake Disk- inboard rear	F425R
FF2000 Front or Rear Brake Disk-	call with application
Caliper Small Lockheed LD19 Left	BC19L
Caliper Small Lockheed LD19 Right	BC19R
Caliper Large Lockheed LD20 Left	BC20L
Caliper Large Lockheed LD20 Right	BC20R
Caliper Piston Small Lockheed LD19 (stainless)	BCP19
Caliper Repair Kit ATE Large	RKCA2
Caliper Repair Kit ATE Small	RKCA3
Caliper Repair Kit Girling Small (12SP)	RKCG12
Caliper Repair Kit Girling Large (14LF)	RKCG14
Caliper Repair Kit Lockheed Small (LD19)	RKCL19
Caliper Repair Kit Lockheed Large (LD20)	RKCL20
Caliper Repair Kit Lockheed 4 Piston S2000	RKCL65
Cross Feed Seals (LD19)	RK19S

**Slave Cylinders**

Slave Cylinder .875"	WC39
Slave Cylinder Universal	WC39U
Slave Cylinder Repair Kit .875"	RKS87

**Racing Brake Fluid**

Brake Fluid AP Competition (16.9oz. 500ml.)	MC550
Brake Fluid Wilwood 570 (12oz. 355ml.)	MC570
Brake Fluid Wilwood 570 (6 Pack)	MC57-6
Brake Fluid Wilwood 570 (24 Case)	MC57-C

**Proportioning Valves**

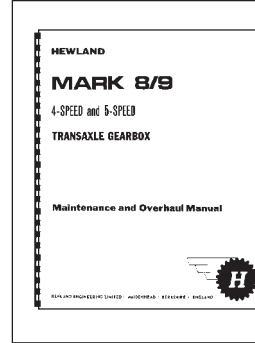
Tilton Prop. Valve AN-3	BVT3
Tilton Prop Valve AN-4	BVT4
Tilton Prop Valve 10mm x 1.0	BVT1
Wilwood Prop. Valve (lever style) 1/8" -27 NPT	BVWL
Wilwood Prop. Valve (knob style) 1/8" -27 NPT	BVWK
Wilwood Brake Check Valve (one way)	BCV1
Wilwood Brake Pressure Valve (2 psi)	BPV2
Wilwood Brake Pressure Valve (10 psi)	BPV10



## Hewland Mk6-Mk9 Transaxle

### WA Parts List

	illustration	part#	comments
Dog Clutch Ring	A	W12B	narrow stlye lug
1st Input Gear	B		see gear sets
1st Pinion Gear	C		see gear sets
2nd Input Gear	D		see gear sets
2nd Pinion Gear	E		see gear sets
3rd Input Gear	F		see gear sets
3rd Pinion Gear	G		see gear sets
4th Input Gear	H		see gear sets
4th Pinion Gear	K		see gear sets
Rear Cover	1	WA1	
Inter Lock Plug	10	WA10	
Stud (short)	12	WA12	
Stud (long)	13	WA13	
Selector Detent Spring	14	WA14	
Detent Ball	15	WA15	
Detent Plug	16	WA16	
Bushing	19	WA19	
1st Rev. Stop Plunger	2	WA2	
Selector Finger	20	WA20	
1st-Rev. Shift Selector	21	WA21	
2nd-3rd Shift Selector	22	WA22	
4th-5th Shift Selector	23	WA23	
Interlock	24	WA24	
1st-Rev. Shift Fork	25	WA25	reverse on 4 speed
Pinch Bolt	26	WA26	
2nd-3rd Shift Fork	27	WA27	1st-2nd on 4 speed
4th-5th Shift Fork	28	WA28	3rd-4th on 4 speed
Washer	29	WA29	
Plunger Spring	3	WA3	
Nut	30	WA30	
Space Washer	31	WA31	
Rear Pinion Bearing	32	WA32	
Layshaft Washer		WA33	
Pinion Nut	34	WA34	left hand thread



### Hewland Mk8/9 Shop Manual

Specifications on both 4 and 5 speed models. Complete with parts breakdowns, rebuilding info, gear ratio charts and more.....

**F30**

### Shifter Shaft Seal Kit

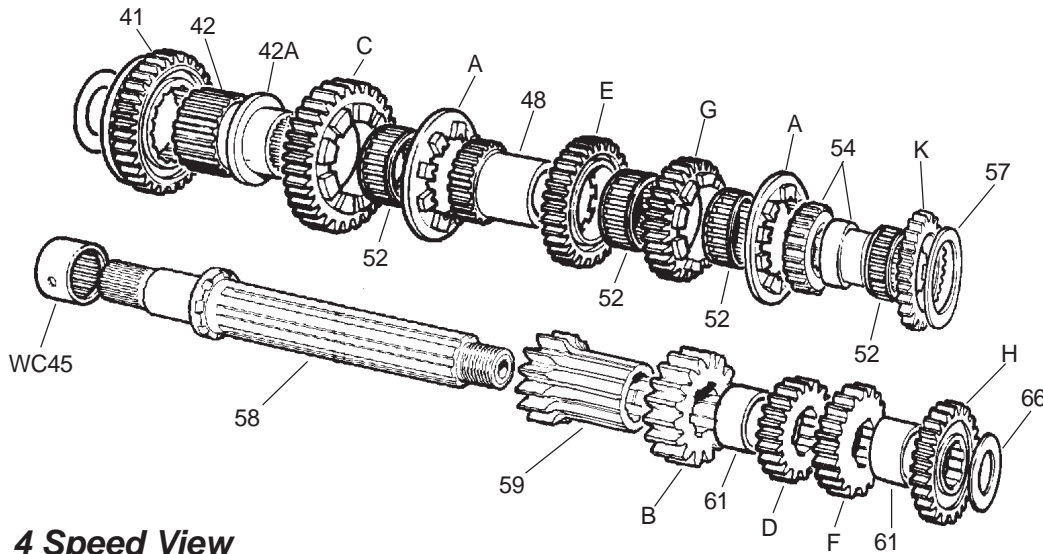
Works on all transmissions with 5/8" shifter shafts. No machining required, just tap 3 holes to install. No more puddles!



**W20S**

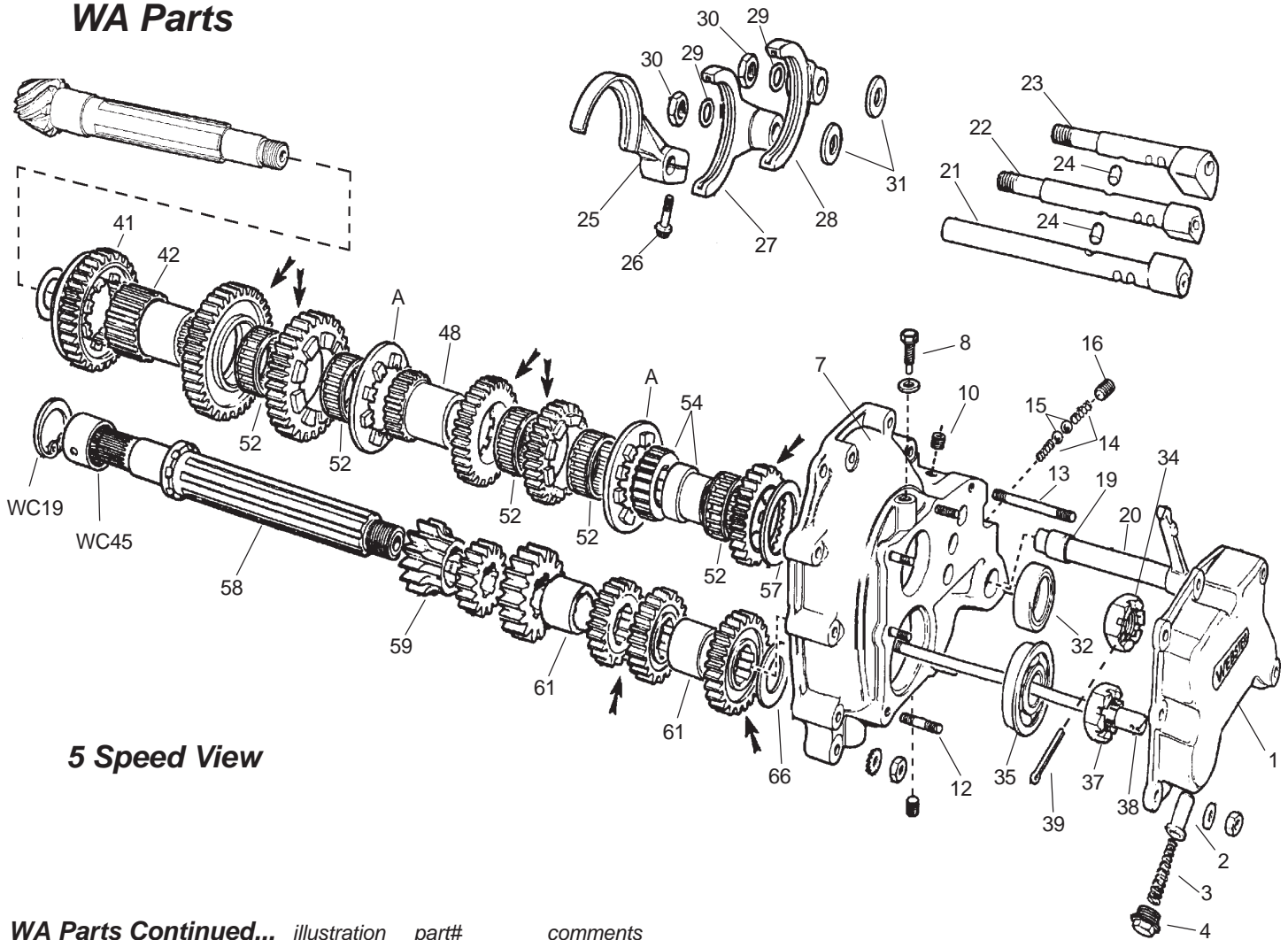
### Product Note:

BAT can supply both Hewland and Webster gears, replacement parts, and components for the Hewland (MK9) VW based transaxles used in Formula Ford 1600's and 2000's.



**4 Speed View**

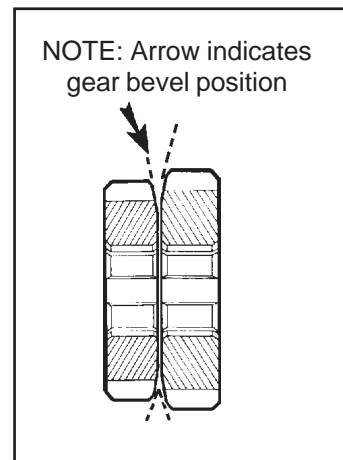
**WA Parts**



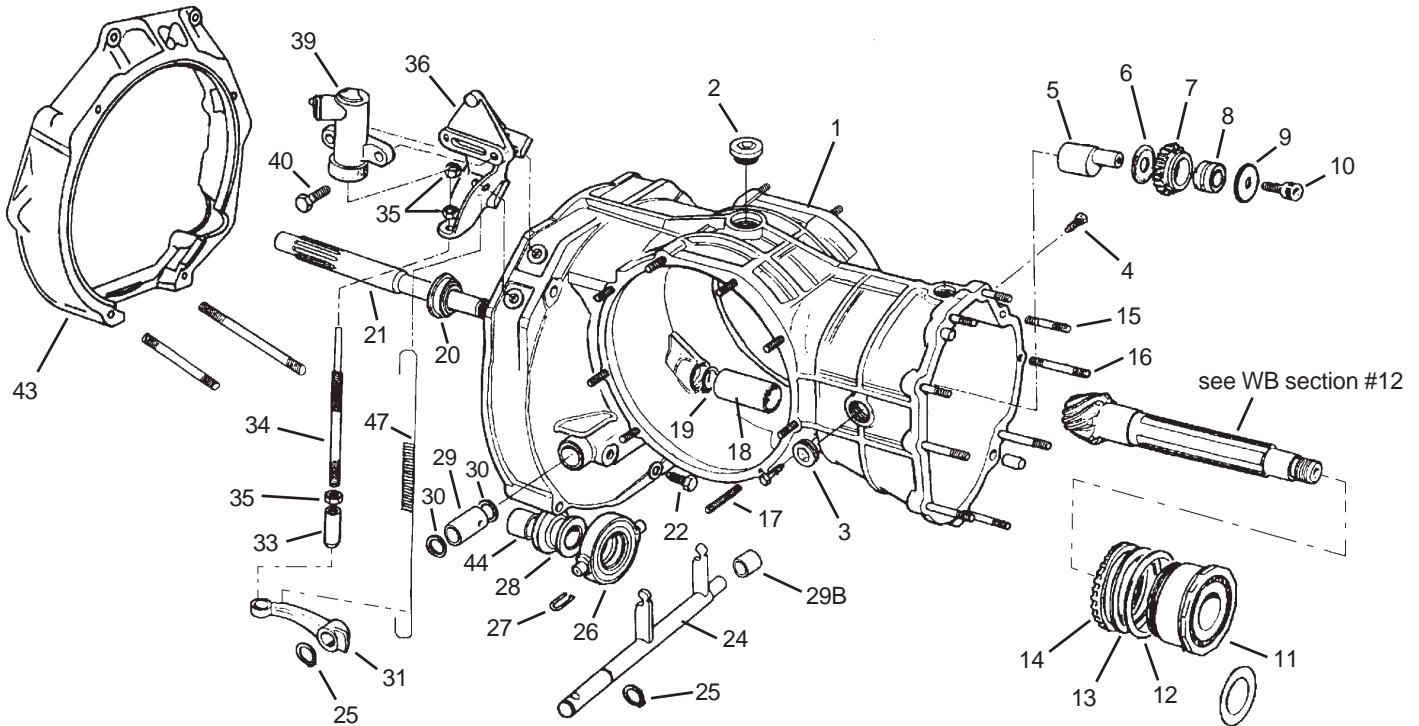
**5 Speed View**

**WA Parts Continued...**

illustration	part#	comments
Layshaft Bearing	35	WA35
Lock Tab Washer		WA36
Layshaft Nut	37	WA37 coarse-right hand thread
Draw Bolt	38	WA38
Cotter Pin	39	WA39
Plug	4	WA4
Hub Spacing Shim .005"	40	WA40
Hub Spacing Shim .015"	40	WA40A
Reverse Sliding Gear	41	WA41 for 4 speed
1st/Reverse Sliding Gear	41	WA41-4 for 5 speed
1st Reverse Hub	42	WA42
Hub Spacer	42A	WA42A needed for 4 speed
2nd-3rd Hub	48	WA48
Needle Bearing	52	WA52
4th-5th Hub	54	WA54 2 pieces
4th-5th Thrust Washer	57	WA57
Layshaft 4 speed	58	WA58-4
Layshaft w/fixed Low Gear	58	CALL optional ratios available
Reverse Driver 4 speed	59	WA59 no spacer required
Layshaft Spacer	61	WA61
Layshaft Thrust Washer	66	WA66
Bearing Carrier	7	WA7
Pilot Bearing Retaining Bolt	8	WA8



**WC Parts View**

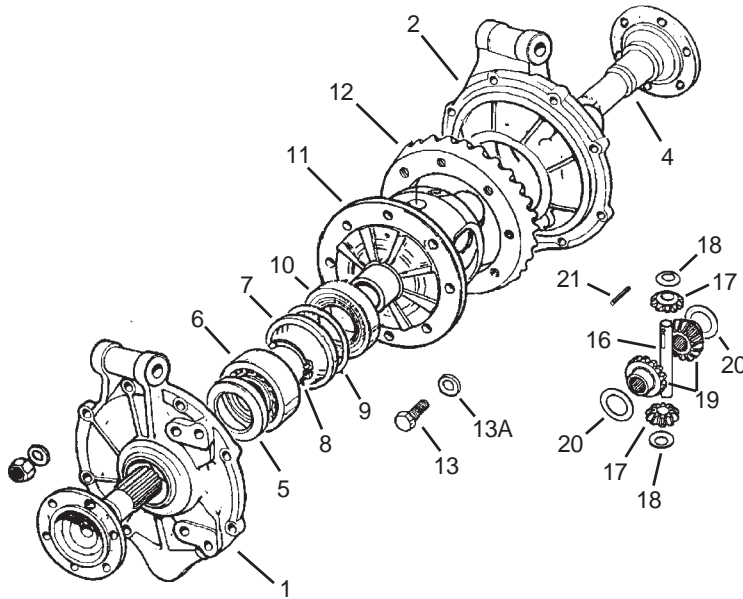


**Hewland Mk6-Mk9 Transaxle**

**WC Parts List**

	illustration	part#		
Main Case	1	WC1	Bobbin S2000	WC28S2
Bolt-Idler Bearing	10	WC10	Bobbin S2 (F3 Clutch)	WC28S2R
Pinion Bearing	11	WC11	Cross Shaft Bushing 20mm	WC29
Nut Backing Washer	13	WC13	Cross Shaft Bush 20mm (small)	WC29B
Spanner Nut	14	WC14	Cross Shaft Bush 16mm (small)	WC29C
Short Stud- Bearing Carrier	15	WC15	Oil Filler Plug	WC3
Long Stud- Bearing Carrier	16	WC16	Seal- 16mm	WC30-16
Stud Side Plate	17	WC17	Seal- 20mm	WC30-20
Coupling Sleeve	18	WC18	Lever	WC31
Circlip Clutch Shaft	19	WC19	Snap Ring	WC32
Oil Filler Plug	2	WC2	Push Rod End	WC33
Oil Filler Plug (magnetic)	2	WC2A	Pushrod	WC34
Oil Seal		WC20	Jam Nut	WC35
Input Shaft FF Std. (11 9/16")	21	WC21	Slave Cylinder Bracket	WC36
Input Shaft FF Long (12 11/16")	21	WC21L	Slave Cylinder .875"	WC39
Input Shaft Swift DB1 (17 1/8")		CALL	Slave Cylinder Repair Kit	RKS87
Input Shaft S2000 (11 9/16")	21	WC21S2	Gear Box Adaptor Webster	WC43
Input Shaft Swift 2000 (17 1/8")		CALL	Gear Box Adaptor Titan	WC43T
Input Shaft Super Vee		WC21SV	Bobbin Bushing FF	WC44
Retaining Bolt	22	WC22	Bobbin Bushing FF (F3 Clutch)	WC44F3
Washer	23	WC23	Bobbin Bushing S2	WC44S2
Cross Shaft 20mm	24	WC24	Bobbin Bushing S2 (F3 Clutch)	WC44S2R
Cross Shaft 16mm (early)		WC24A	Layshaft Front Bearing	WC45
Snap Ring	25	WC25	Clutch Return Spring	WC46
Clutch Release Bearing	26	WC26	Reverse Idler Spigot	WC5
Retaining Clip	27	WC27	Back Washer	WC6
Bobbin FF	28	WC28	Reverse Idler Gear	WC7-4
Bobbin FF (F3 Clutch)		WC28F3	Bearing	WC8
			Front Washer	WC9

**WB Parts View**



**Hewland Mk8-Mk9 Transaxle**

**WB Parts List**

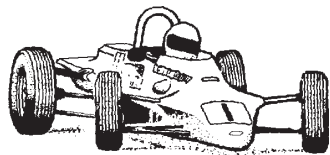
	illustration	part#
Side Plate MK9 RH	1	WB1
Side Plate MK9 LH	2	WB2
Stub Axle MK9 RH	3	WB3
Stub Axle MK9 LH	4	WB4
Stub Axle Seal	5	WB5
Stub Axle Bearing	6	WB6
Stub Axle Circlip	8	WB8
Differential MK8-9	11	WB11
Ring & Pinion 8:31	12	W831H
Ring & Pinion 9:31		W931H
Ring & Pinion 10:31		W1031H
Ring Gear Bolt	13	WB13
Washer	13A	WA31
Nut-Side Cover	14	WB14
Washer	15	WB15
Cross Shaft	16	WB16
Spider Gear	17	WB17
Dished Washer	18	WB18
Side Gear	19	WB19
Flat Washer	20	WB20
Roll Pin	21	WB21

**Gearbox Tech Info**

The Mark 4-9 Hewland and Webster gearboxes are quite rugged for their size. If properly set up the unit should be completely trouble free when used with a FF1600. These gearboxes also perform well in S2000 service, but because of the extra torque generated by the 2000 engine some extra care is necessary.

Since the gearbox does not bolt directly to the engine, but to an adaptor which attaches to the engine, a spacer or "bobbin" is used to correctly space the clutch release bearing. Most cars use a standard bellhousing adaptor which is 2.15" thick. Some cars use special bellhousing adaptors which are thicker and thus a special long input shaft and long bobbin is required. Racing type F-3 clutches will also require a longer bobbin because of pressure plate spring height differences. We offer these F3 type bobbins in the proper lengths for both FF1600 and FF2000/S2000 applications.

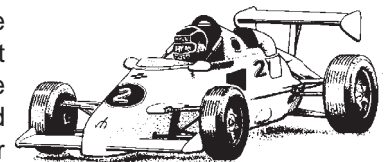
Four and five speed versions of the gearbox use the same basic gears for all gear positions except first gear on a five speed version. A four speed is actually using 2rd through 5th as 1st through 4th with a spacer located where first gear normally is. A four speed can be converted back to five speed configuration by replacing the 1st gear hub, sliding gear and 1st gear set.



We only advise using a lubricant that has an (EP) additive, the Torco synthetic gear oil listed elsewhere in this catalog is an excellent choice. The (EP) additive is necessary to protect the ring and pinion from the severe side loads encountered in racing gearboxes.

As far as wear goes, if the face of the dogs on either the dog rings or gears themselves become rounded over the corners more than 1/3 of the depth of the dog, that component should be replaced to prevent jumping out of gear. On 2000 cars pay particular attention to the shape and wear pattern on the gear teeth on first and second gears. If the gear tooth is no longer a nice involute shape and is beginning to flatten out then the gear must be immediately replaced.

Another sign of trouble is if the gearbox is excessively noisy. Because of the straight cut gears the gearbox is certainly not quiet, however a siren like sound that can be heard over the engine as a car powers past the pits is a sure sign of something amiss. Excessive preload on the rear carrier bearings can lead to such an occurrence.





## Mk8-Mk9 Gear Sets

	<i>part#</i>	<i>ratio</i>
13:38 1st Gear Set*	W1338	2.923
14:37 1st Gear Set*	W1437	2.642
14:38 1st Gear Set*	W1438	2.714
15:36 1st Gear Set*	W1536	2.400
<i>* used only in 5 speed configuration</i>		
15:37 Gear Set	W1537	2.467
15:36 Gear Set	W1536	2.400
16:36 Gear Set	W1636	2.250
16:35 Gear Set	W1635	2.188
16:34 Gear Set	W1634	2.125
17:35 Gear Set	W1735	2.059
17:34 Gear Set	W1734	2.000
17:33 Gear Set	W1733	1.941
18:34 Gear Set	W1834	1.889
18:33 Gear Set	W1833	1.833
18:32 Gear Set	W1832	1.778
19:33 Gear Set	W1933	1.737
19:32 Gear Set	W1932	1.684
19:31 Gear Set	W1931	1.631
20:32 Gear Set	W2032	1.600
20:31 Gear Set	W2031	1.550
20:30 Gear Set	W2030	1.500
21:31 Gear Set	W2131	1.476
21:30 Gear Set	W2130	1.429
21:29 Gear Set	W2129	1.381
22:30 Gear Set	W2230	1.364
22:29 Gear Set	W2229	1.318
22:28 Gear Set	W2228	1.273
23:29 Gear Set	W2329	1.261
23:28 Gear Set	W2328	1.217



We offer the new Webster Super Duty Gears which are uprated to reduce the chance of gear damage in high (torque) stress situations. These gears incorporate a new advanced tooth design featuring: shaving, double tapering, crowning, and center grinding on the pitch circle for positive engagement. All this combines to help eliminate stress concentrations caused by off-center gear tooth loading, and offers a much stronger gear more suitable for 2000, Olds, and Cosworth powered applications.

### Mk8-Mk9 Gear Sets Continued...

	<i>part#</i>	<i>ratio</i>
21:25 Gear Set	W2125	1.190
23:27 Gear Set	W2327	1.174
24:28 Gear Set	W2428	1.167
21:24 Gear Set	W2124	1.143
24:27 Gear Set	W2427	1.125
24:26 Gear Set	W2426	1.083
25:27 Gear Set	W2527	1.080
25:26 Gear Set	W2526	1.083
26:26 Gear Set	W2626	1.000
26:25 Gear Set	W2625	.0962
27:25 Gear Set	W2725	0.926
27:24 Gear Set	W2724	0.889

## Staffs Gear Sets

### Staffs Type 2nd Gear Sets

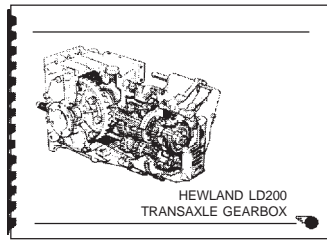
	<i>part#</i>	<i>ratio</i>
13:27 Gear Set	W2S1327	2.077
14:26 Gear Set	W2S1426	1.857
14:27 Gear Set	W2S1427	1.929
14:28 Gear Set	W2S1428	2.000
14:30 Gear Set	W2S1430	2.142
15:27 Gear Set	W2S1527	1.800

### Staffs Type 3rd-5th Gear Sets

14:26 Gear Set	W3S1426	1.857
14:27 Gear Set	W3S1427	1.929
15:25 Gear Set	W3S1525	1.667
15:26 Gear Set	W3S1526	1.733
15:27 Gear Set	W3S1527	1.800
16:24 Gear Set	W3S1624	1.500
16:25 Gear Set	W3S1625	1.563

### Staffs 3rd-5th Gear Sets Continued...

	<i>part#</i>	<i>ratio</i>
16:26 Gear Set	W3S1626	1.625
17:23 Gear Set	W3S1723	1.353
17:24 Gear Set	W3S1724	1.411
17:25 Gear Set	W3S1725	1.471
18:22 Gear Set	W3S1822	1.222
18:24 Gear Set	W3S1824	1.333
19:22 Gear Set	W3S1922	1.158
19:23 Gear Set	W3S1923	1.211
20:25 Gear Set	W3S2025	1.250
21:24 Gear Set	W3S2124	1.143
21:25 Gear Set	W3S2125	1.190
24:26 Gear Set	W3S2426	1.083
24:27 Gear Set	W3S2427	1.125
25:26 Gear Set	W3S2526	1.040



**LD 200  
Shop Manual**

Shop manuals for the LD200 are now available. Everything you need to know about the LD200 transmission under one cover.

**F30B**

**LD200 Gear Sets**

**LD200 1st Gear Sets**

	<i>part#</i>	<i>ratio</i>
15:36 Gear Set	W1D1536	2.40
16:35 Gear Set	W1D1635	2.19
17:35 Gear Set	W1D1735	2.06
17:34 Gear Set	W1D1734	2.00
17:33 Gear Set	W1D1733	1.94
18:34 Gear Set	W1D1834	1.98
18:33 Gear Set	W1D1833	1.83
18:32 Gear Set	W1D1832	1.78
19:33 Gear Set	W1D1933	1.74
19:32 Gear Set	W1D1932	1.68
19:31 Gear Set	W1D1931	1.63
20:32 Gear Set	W1D2032	1.60
20:31 Gear Set	W1D2031	1.55

**LD200 2nd-4th Gear Sets**

16:35 Gear Set	W2D1635	2.19
16:34 Gear Set	W2D1634	2.13
17:35 Gear Set	W2D1735	2.06
17:34 Gear Set	W2D1734	2.00
17:33 Gear Set	W2D1733	1.94
18:34 Gear Set	W2D1834	1.89
18:33 Gear Set	W2D1833	1.83
19:33 Gear Set	W2D1933	1.78
19:31 Gear Set	W2D1931	1.63
20:32 Gear Set	W2D2032	1.60
20:31 Gear Set	W2D2031	1.55
20:30 Gear Set	W2D2030	1.50
21:31 Gear Set	W2D2131	1.48
21:30 Gear Set	W2D2130	1.43
21:29 Gear Set	W2D2129	1.38
22:30 Gear Set	W2D2230	1.50
22:29 Gear Set	W2D2229	1.32
22:28 Gear Set	W2D2228	1.27
23:29 Gear Set	W2D2329	1.26
23:28 Gear Set	W2D2328	1.22
21:25 Gear Set	W2D2125	1.19
23:27 Gear Set	W2D2327	1.17
24:28 Gear Set	W2D2428	1.17
21:24 Gear Set	W2D2124	1.14
24:27 Gear Set	W2D2427	1.13
24:26 Gear Set	W2D2426	1.08
25:27 Gear Set	W2D2527	1.08
23:24 Gear Set	W2D2324	1.04



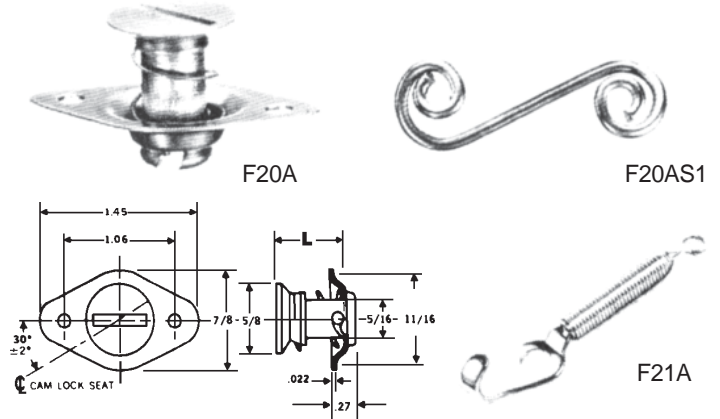
**Torco Gear Oil**

Torco synthetic gear oils are designed to withstand tremendous heat and provide extreme anti-score protection for high torque loading conditions. Torco 75w/90 gear oil is GL-6 rated and includes extreme pressure and limited slip additives. Torco synthetic gear oil is also compatible with seals and will not cause leaks. We highly recommend Torco for all racing gearbox applications.

**C2S**

**Body Fasteners**

Terry Body Springs w/hooks (2 per set)	F21A
Toggle Latch Adjustable w/hook	F21B
Dzus Fastener 40	F20A40
Dzus Fastener 45	F20A45
Dzus Fastener 50	F20A50
Dzus Fastener 55	F20A55
Dzus Fastener 60	F20A60
Dzus Fastener 65	F20A65
Dzus Fastener 70	F20A70
Dzus Fastener 75	F20A75
Dzus Fastener 80	F20A80
Dzus Fastener 85	F20A85
Dzus Spring 200	F20AS1
Dzus Spring 250	F20AS2



**Books, Manuals & Videos**

**Haynes Weber Carburetor Manual C205**

(theory & operation, maintenance & tuning, detailed overhaul procedures covering Weber & Zenith carbs)

**Rebuild & Tune Kent Crossflow Engines F202**

(covers the teardown and buildup of the Kent series engines- good info, specs, drawings etc.)

**Build & Maintain FF1600 Engines F203**

(building & maintaining FF1600 engines A to Z, lots of tips, specs, data makes this book a must have)

**Haynes Escort R/S Mexico Manual F204**

(chapters on 2000 OHC and BDA engines, teardown, rebuild, engine specs., torques, diagrams- also covers the remaining systems of the European R/S Escort)

**Engine Building & Maintenance - Video F206**

(video segments covering installation of new engines- first time start up procedures, tuning 1600 & 2000 engines and keeping them running at their best, hosted by engine builder Jay Ivey)

**Rebuild & Tune X FLOW & Pinto 2.0L Engines F209**

(covers the teardown and buildup of the Kent 1600 and Pinto 2000 engines- good info, specs, drawings etc.)

**Hewland Mk8/9 Manual F30**

**Hewland LD200 Manual F30-200**

**Power Tune Ford SOHC & DOHC 2000 Engines S202**

(covers the teardown and buildup and tuning on the 2000 sohc & dohc (YB) type engines- good info, specs, drawings etc.)

**How To Modify Ford SOHC Engines S204**

(the bible on modifying the 2.0L Pinto engine by David Vizzard, a must for understanding what works and how to do it)

**BAT Items**

BAT Tee Shirts- Haynes cotton sweatshirt grey shirts with BAT logo (similar to rear cover) - sizes large, x-large C202

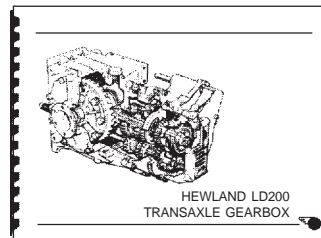
BAT "Fast Ford" Stickers (5" round)- free on request



C205



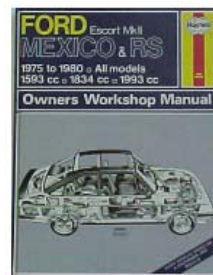
F202



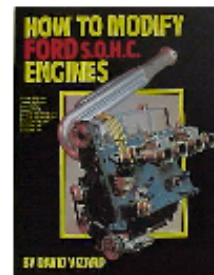
F30-200



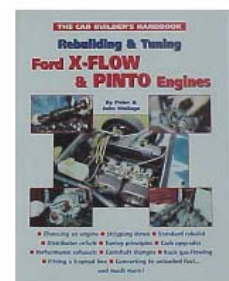
F30



F204



S204



F209

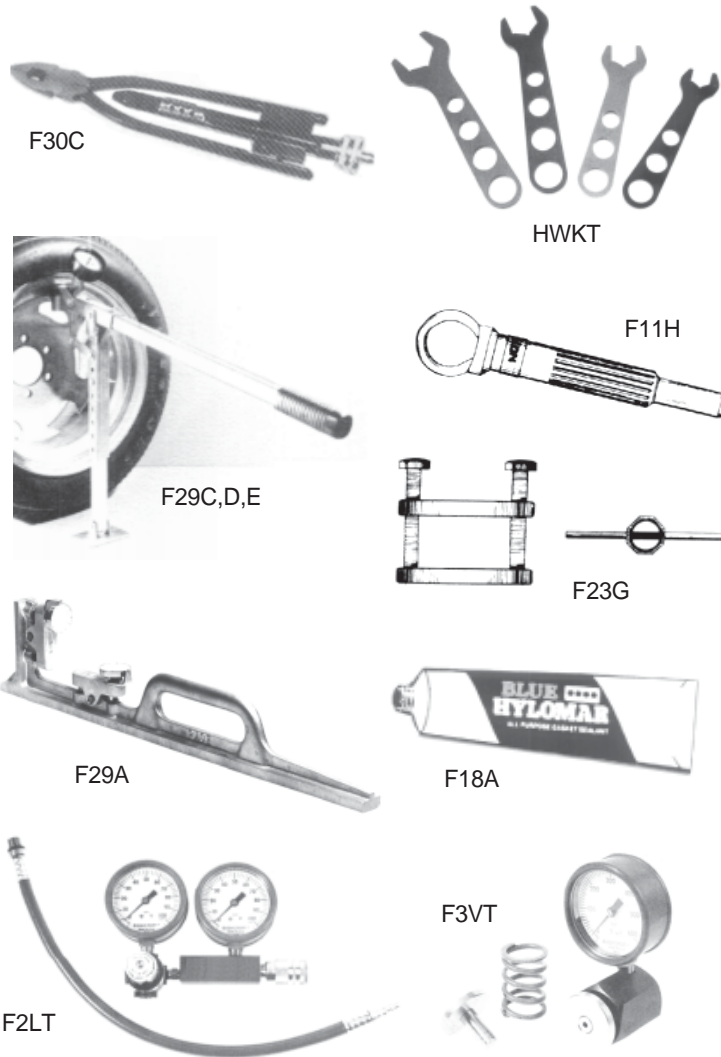


S202



F203



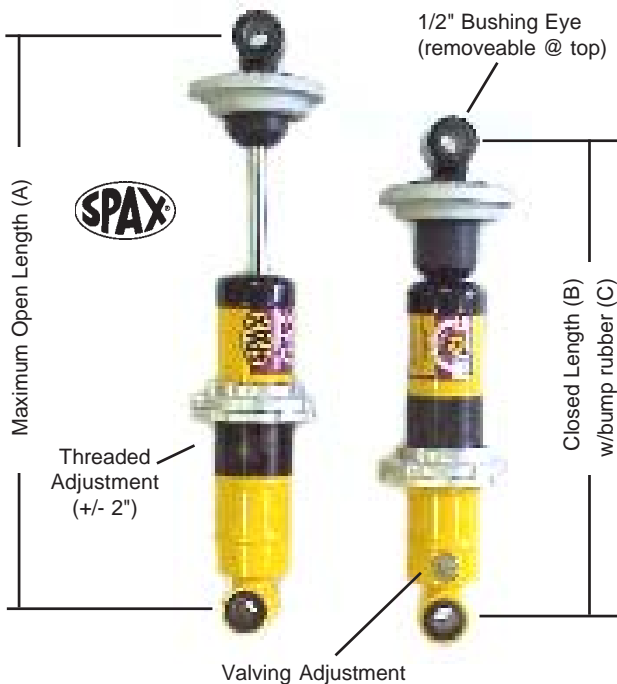


**Tools & Chemicals**

Starter Bendix Compressor	F23G
Safety Wire Pliers	F30C
Lock Wire Spool .032"	F30B
Hose End Wrench Set (-6, -8, -10, -12 -16AN)	HWST
Valve Spring Tester Kit*	F3VT
<i>*includes: 300# gauge w/drill press flange</i>	
Dual Gauge Leakdown Tester	F2LT
Tire Gauge 2 1/2" 0-60 psi	F30E
Pit Board Set w/numeral cards	F30PB
Camber Gauge	F29A
Corner Weight Checker 0-400#	F29C
Corner Weight Checker 0-600#	F29E
Corner Weight Checker 0-1000#	F29D
Spring Perch "C" Spanner/Wrench	F414C
Quick Lift Formula Car Jack	F29Q
Clutch Alignment Tool 1600 OHV	F11H
Clutch Alignment Tool 2000 OHC	S11H
Hylomar Tube 100gr.	F18A
Hylomar Case (12 tube 100gr.)	F18B
Araldite Epoxy w/hardener	F18C
Copaslip Tube	F18D
Lobro CV Joint Lube	C550L
Torco Synthetic Gear Oil 75w/90	C2S
Torco Engine Assembly Lube (4 oz.)	C2L
Cam Lube (4 oz.)	C5CL
Air Filter Oil Spray (16 oz.)	F22DR

**Spax Adjustable Gas Dampers**

Many of the English manufactured formula cars (now "Vintage Formula Fords") came equipped with Spax shock absorbers. Spax competition dampers feature 12 position 1:1 to 1:6 bump to rebound adjustment, low viscosity damping fluid with internal hygroscopic gas cell, removable top eye/bushing with bump stop, anodized 2.25" aluminum spring perch & lock, electroplated housing/body. All units are factory tested & fully rebuildable. We have been stocking three of the most popular formula car applications (see specifications below). All are designed for use with 2.25" coil springs and have a perch adjustment of + or - 2". The main difference between them is the open length (A), closed length (B), and closed length with bump stop (C) specification.



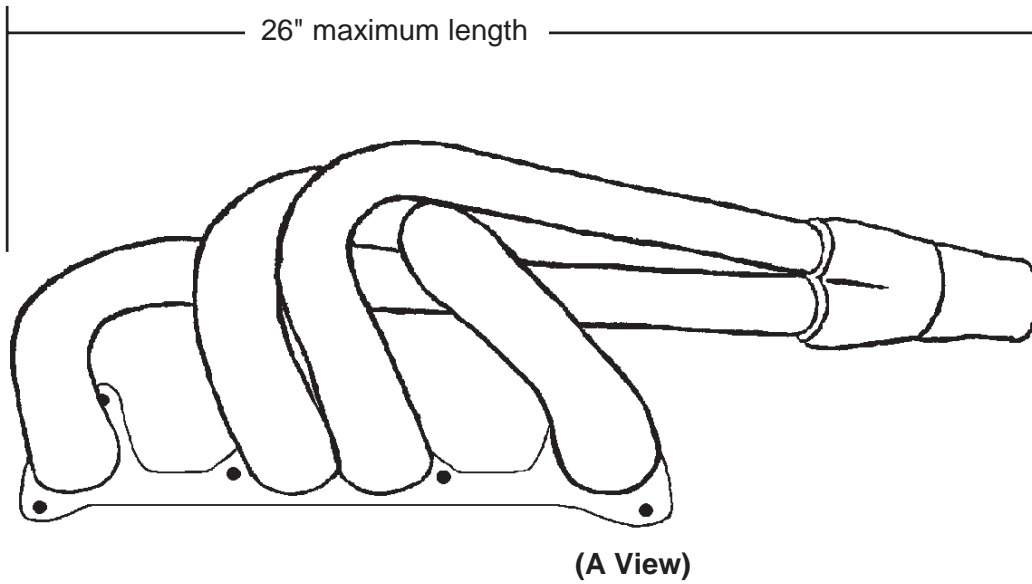
part# **FG451** (A) 12.5" (B) 8.25" (C) 9.75"  
(for use with 8.5" spring)

part# **FG453** (A) 13.25" (B) 8.75" (C) 10.75"  
(for use with 9" spring)

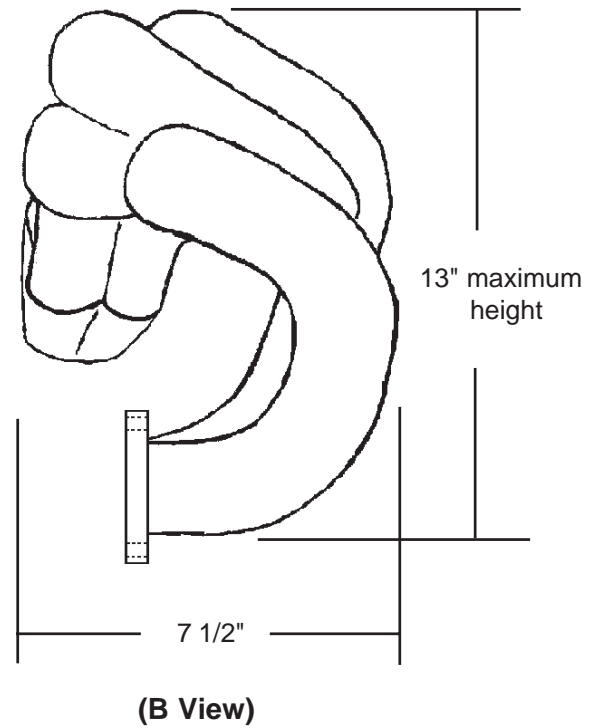
part# **FG452** (A) 14.25" (B) 9.25" (C) 11.00"  
(for use with 10" spring)



# F521U FF 1600 Header (upswept)



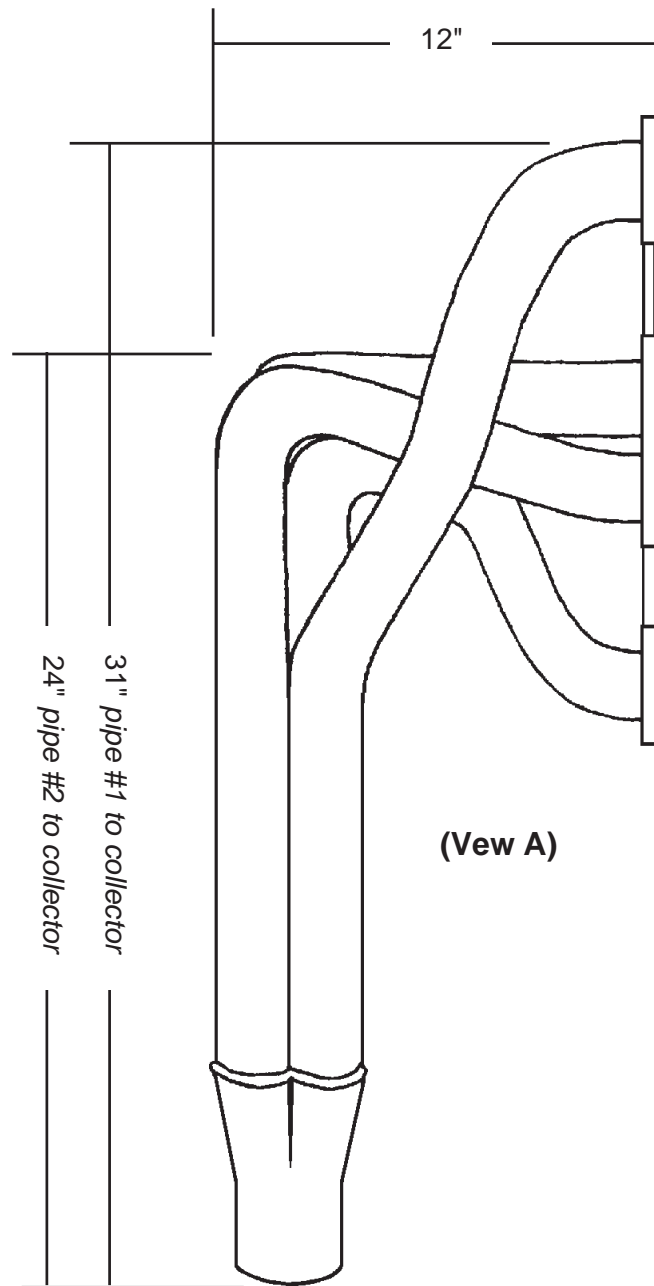
- Other information:
- two piece design (header/collector) & separate tail section
  - header incorporates 1.5" mandrel bent tubing
  - primary tube lengths are 27" (+ or - 1")
  - one piece flange and gasket



<b>Header F521U (up-swept design)</b>
Side (A View) header & tail
Front to Rear (B View)

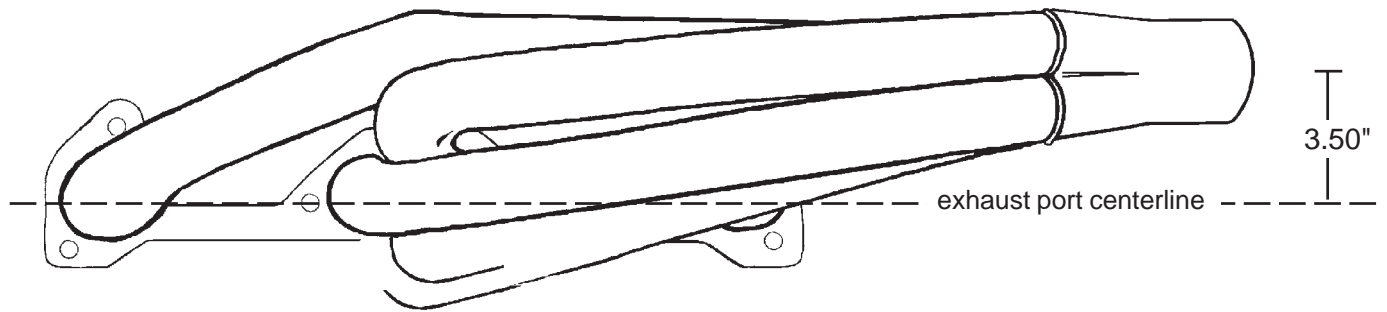
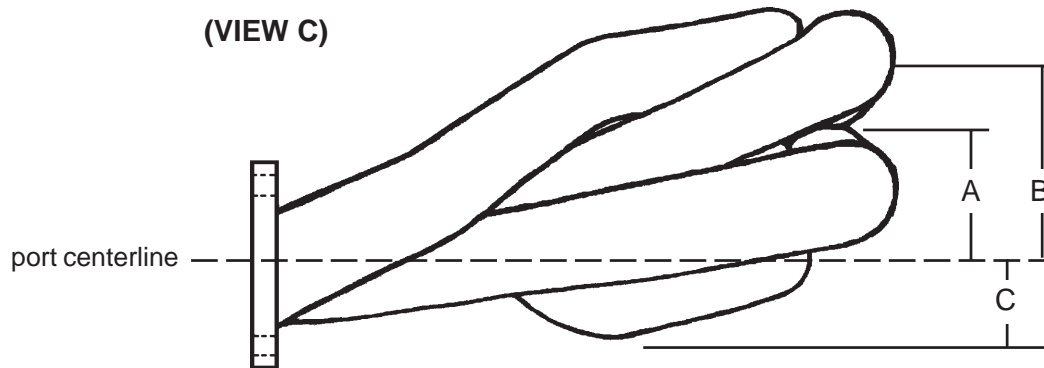
# F521CA FF 1600 Header (out & back incline)

- Other information:
- two piece design (header/ collector) & separate tail section
  - straight out and back design
  - tail pipe section can be cut for "tune" to length
  - header incorporates 1.50" mandrel bent tubing / slip fit 2" collector
  - primary tube lengths are 26" (+ or - 1")



<b>Header F521CA (out &amp; back) incline</b>
Top View (A) header & tail

# **F521CA** FF 1600 Header (out & back incline)

**(VIEW B)****(VIEW C)**

(height above centerline forward of pipe 2) A = 2.5"

(height above centerline @ rear of collector) B = 3.5"

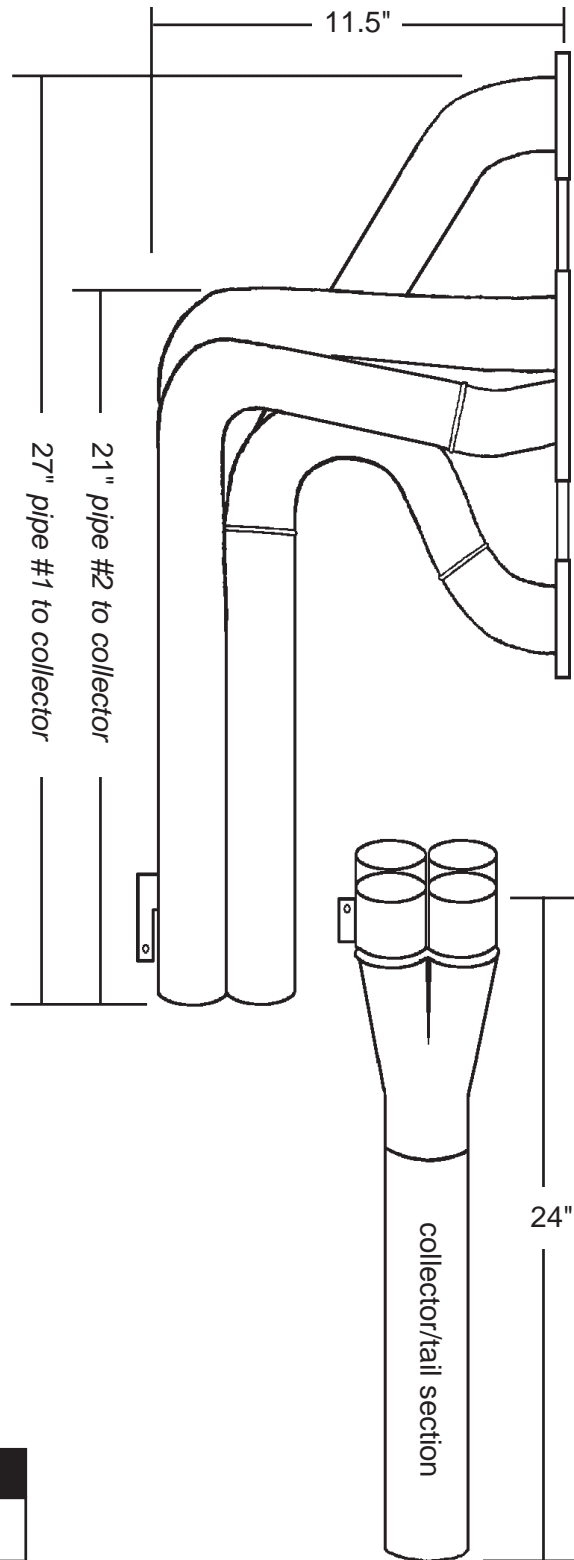
(measurement below centerline pipe 4) C = 1.75"

**F521CA header (out & back) incline**

Slide View (B) header

Front View (C) header

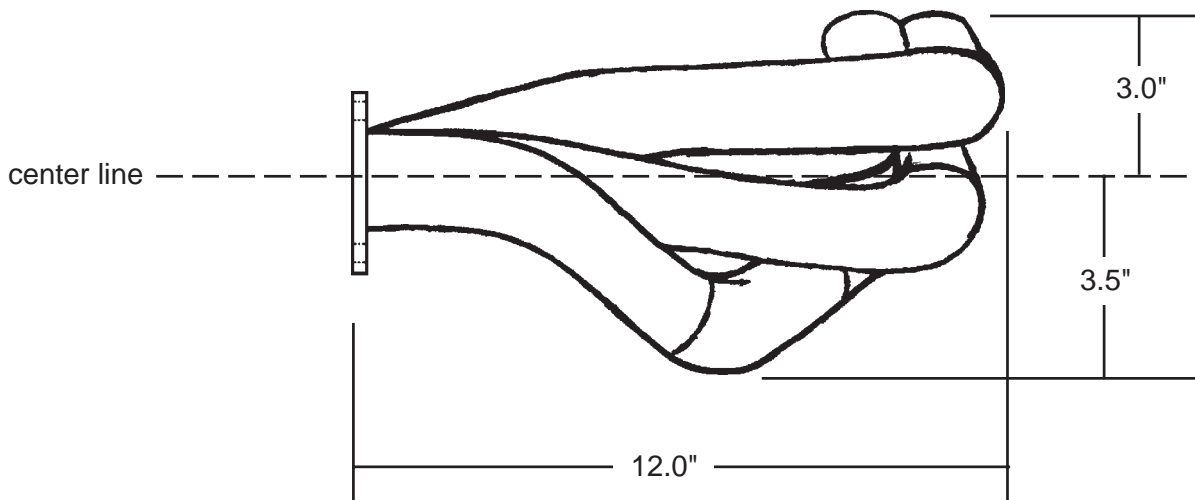
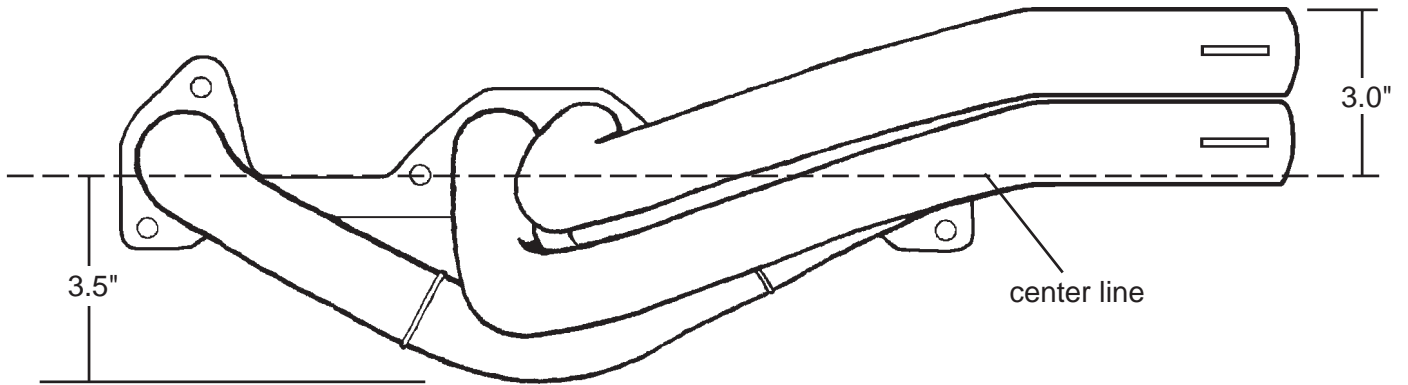
# **F521C** FF 1600 Header (out & back) Crossle type



- F521C information:
- straight out & back O.E. for Crossle 30/40 series (can be fitted to others)
  - two piece design - header with separate collector/tail section
  - header incorporates 1 1/2" mandrel bent tubing
  - primary tube lengths are 28" (+ or - 1")
  - one piece flange

**F521C header (out & back) Crossle**  
 Top View (A) header & tail

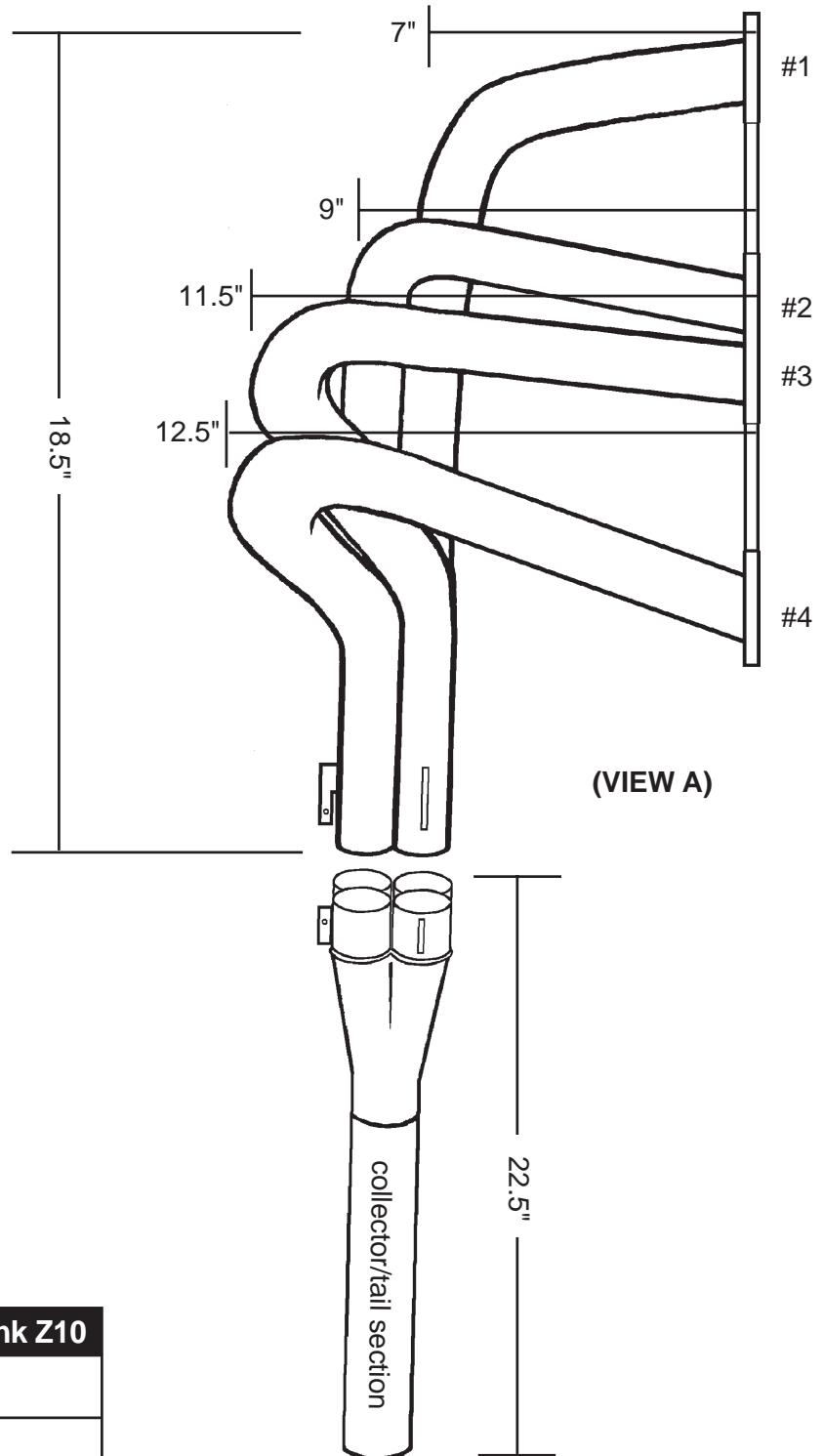


**F521C** FF 1600 Header (out & back) Crossle type**F521C header (out & back) Crossle**

Side View (B) header

Front View (C) header

# F521D FF 1600 Header (down & under) Zink Z10



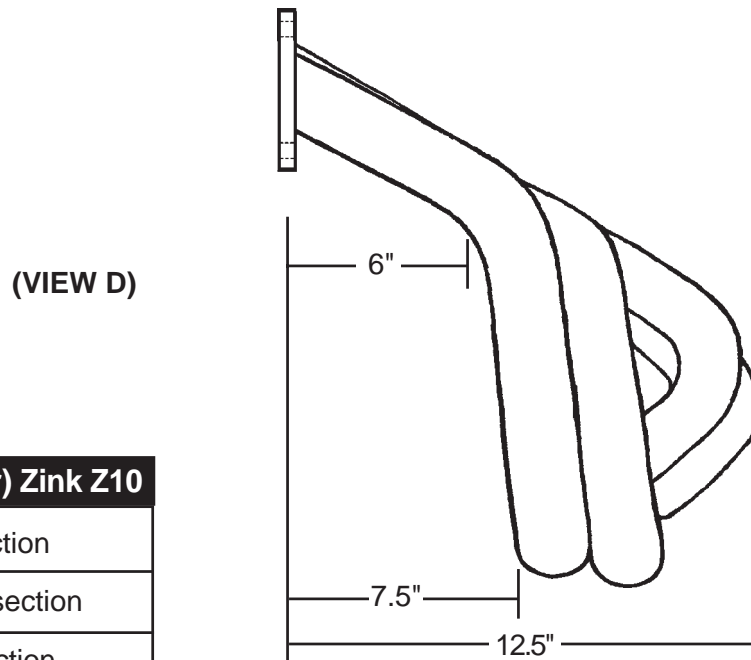
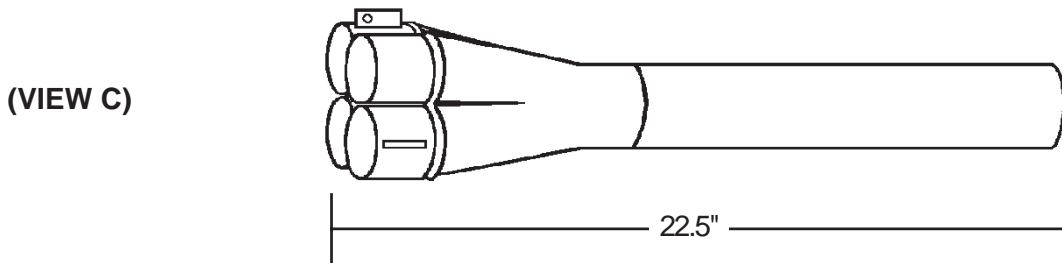
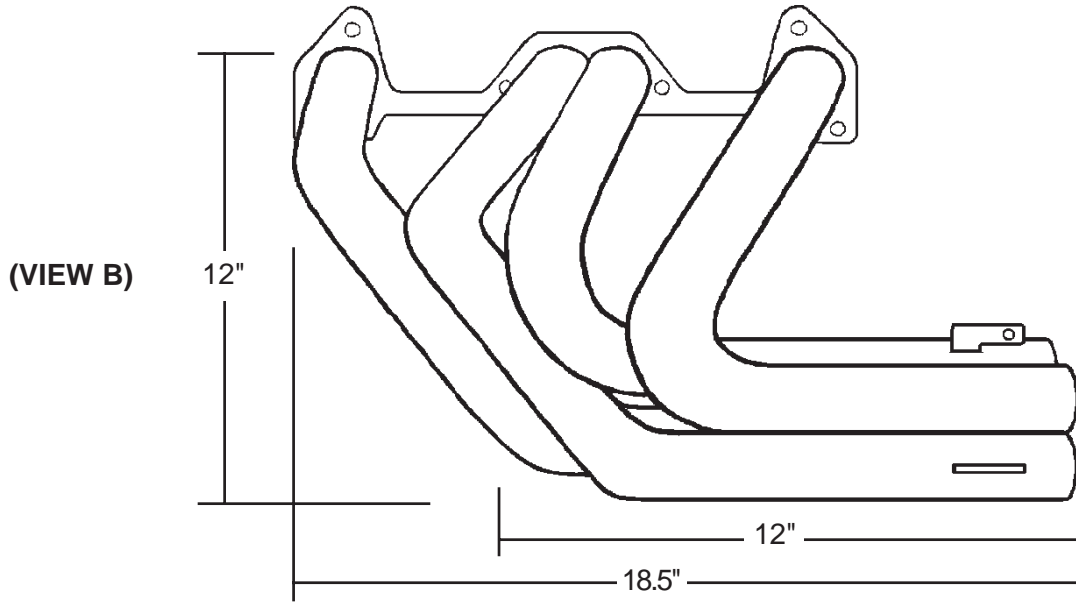
F521D information:

- down& under header  
O.E. for Zink 10  
(can be fitted to others)
- two piece design -  
header with separate  
collector/tail section
- header incorporates  
1 1/2" mandrel bent tubing
- primary tube lengths are  
28" (+ or - 1")
- one piece flange

**Header F521D (down & under) Zink Z10**

Top View (A) header & tail

**F521D** FF 1600 Header (down & under) Zink Z10



**Header F521D (down & under) Zink Z10**

Side View (B) header section

Side View (C) collector/tail section

Front View (D) header section

## PAGE 3

F1A .....	DISC	F5EA7 .....	13.25	S5TS .....	47.40
F1AZ .....	DISC	F5EA8 .....	13.25	S5B2F .....	CALL
F1C .....	DISC	F5EA9 .....	13.25	S4B5A .....	92.75
FICZ .....	DISC	F5G .....	42.00	S4AB .....	82.00
F2G .....	DISC	F2J .....	119.00	S4ABF .....	85.50
F2GZ .....	DISC	F51 .....	26.00	S4AC .....	48.80
F2FP .....	29.45	F2L .....	4.50	S4T.005 .....	189.00
F2H .....	69.00	F2A .....	DISC	S4C .....	17.50
F2HH .....	79.00	F2AL .....	945.00	S4E .....	33.80
F2GD .....	5.50	F2AZ .....	DISC	S4EF .....	100.00
F2K .....	4.95	F20 .....	3.40	S4ECS .....	450.00
F2S .....	40.00	F2D .....	6.50	S4F .....	3.49
F5N .....	725.00	F2E .....	4.45	S4FA .....	3.90
F5NZ .....	DISC	F2F .....	21.20	S4FN .....	1.75
F5P .....	40.50	F2FA .....	67.20	S4FS .....	59.50
F50 .....	4.50	F604S .....	22.75	S5D .....	235.00
F11F .....	18.00	F3HAE .....	19.25	S5JD .....	DISC
F61 .....	124.50	F3HB .....	26.75	S5DB .....	DISC
F5R .....	155.00	F31AE .....	28.35	S5DC .....	22.50
F5S .....	74.50	F31B .....	24.50	S2AE .....	695.00
F5SA .....	74.50	F3D .....	3.60	S2AZ .....	DISC
F5T .....	DISC	F3E .....	15.25	S2AP .....	0.55
F5TA .....	7.45	F3G .....	0.60	S2F .....	39.00
F11G .....	2.55	F3F .....	72.00	S2DS .....	129.00
F4BA .....	85.10	F3FC .....	2.85	S2DT .....	6.45
F4BB .....	85.10	F3FE .....	32.00	S604S .....	59.95
F4BD .....	DISC	F3C .....	DISC	S604SL .....	69.95
F4BE .....	DISC	F3B .....	DISC		
F4AB .....	DISC	F3P .....	42.00		
F4ABH .....	99.00	F3SHD .....	135.00		
F4T005 .....	DISC	F3A .....	155.00		
F4ACH .....	59.00	F8A .....	131.00		
F4AD .....	69.00	F8B .....	DISC		
F4AE .....	99.00				
F4C .....	14.50				
F4CL .....	1.75				
F4E .....	95.00				
F4F .....	5.25				
F4FA .....	9.75				
F4FB .....	15.45				
F5A .....	339.00				
F5AB .....	275.00				
F5AK .....	379.00				
F5B .....	99.60				
F5BR .....	190.75				
F5BA .....	170.00				
F5BAR .....	235.00				

## PAGE 5

S1B .....	DISC	S5A .....	249.00
S1C .....	DISC	S5AL .....	395.00
S2G .....	DISC	S5J .....	19.00
S2FP .....	19.00	S5ST .....	45.00
S2H .....	73.05	S5B .....	21.95
S2HD .....	12.95	S5BA .....	175.55
S2K .....	4.95	S5AC .....	5.05
S2KS .....	134.50	S5AN .....	0.99
F2GD .....	5.50	S5AS .....	6.65
S2P .....	57.00	S5ASP .....	6.15
S2PS .....	17.95	S3HA .....	18.00
S10A .....	99.50	S31A .....	44.00
S10P .....	15.25	S3D .....	1.75
S6A .....	74.50	S3E .....	4.95
S6AA .....	62.50	S3F .....	DISC
S5N .....	795.00	S3FA .....	145.65
S5NU .....	DISC	S3FC .....	2.50
S50 .....	7.20	S5EA1 .....	14.50
S5OS .....	4.60	S5EA2 .....	14.50
S5P .....	35.75	S5EA3 .....	14.50
F11F .....	8.25	S5EA4 .....	14.50
S61 .....	99.50	S5EA5 .....	14.50
S5R .....	345.00	S5F .....	62.50
S5RU .....	DISC	S5FT .....	12.15
F5S .....	74.50	S5G .....	35.65
S5S .....	89.00	S5GA .....	64.75
S5T .....	5.00	S51 .....	70.95
		S51B .....	9.35
		S51S .....	1.99
		S8A .....	279.00
		S8AU .....	95.00
		F16A .....	115.50
		F16B10 .....	115.50

## PAGE 6

F16B20 .....	115.50	F15N .....	2.45	F7G160 .....	5.45
F16B30 .....	115.50	F15P .....	3.40	F7G165 .....	5.45
F16B40 .....	115.50	F15Q .....	39.25	F7G170 .....	5.45
F16B50 .....	115.50	F15R .....	17.45	F7G175 .....	5.45
		F15S .....	6.05	F7G180 .....	5.45
		F15T .....	5.05	F7G185 .....	5.45
		F3G .....	0.60	F7G190 .....	5.45
		F9SL .....	1.35	F7G195 .....	5.45
		S15A .....	149.00	F7G200 .....	5.45
		S15B .....	95.00	F7H135 .....	5.45
		S15BA .....	68.50	F7H140 .....	5.45
		S15C .....	26.25	F7H145 .....	5.45
		S15CC .....	15.50	F7H150 .....	5.45
		S15D .....	39.85	F7H155 .....	5.45
		S15DF .....	28.50	F7H160 .....	5.45
		S15E .....	6.95	F7H165 .....	5.45
		S15EL .....	10.75	F7H170 .....	5.45
		S15F .....	12.90	F7H175 .....	5.45
		S15G .....	11.00	F7H180 .....	5.45
		F15H .....	21.50	F7H185 .....	5.45
		F151 .....	5.25	F7H190 .....	5.45
		S15J .....	6.75	F7H195 .....	5.45
		S15M .....	14.40	F7H200 .....	5.45
		S15N .....	1.90	F7H205 .....	5.45
		S15P .....	2.95	F7H210 .....	5.45
		S15R .....	9.45	F7H215 .....	5.45
		F15Q .....	29.25	F22A .....	DISC
		S15S .....	6.95	F22B .....	DISC
		F3G .....	0.60	F22D .....	DISC
		S9SL .....	0.85	F22E .....	DISC
				F22C .....	DISC
				F22G .....	DISC
				F22P1 .....	DISC
				F22PE10 .....	79.25
				F22PE15 .....	89.50
				F22PE65 .....	79.25
				F22PE40 .....	77.50
				F22PE25 .....	77.50
				F22PB1 .....	21.50
				F22PB2 .....	21.50
				F22PB3 .....	USE PB1

## PAGE 9

F10A .....	159.00	F9AB .....	DISC
F10AA .....	74.25	F9ABE .....	DISC
S10A .....	99.50	F9ABE2 .....	DISC
S10AA .....	69.00	F9B .....	19.45
S10P .....	15.25	F9BB .....	13.25
F10FE .....	DISC	F9BBE .....	25.25
F10FB .....	DISC	F9BBS .....	54.00
F7B .....	374.50	F9BL .....	35.50
F7BP .....	DISC	F9E .....	13.50
F7V .....	DISC	F9EB .....	12.15
F7C .....	DISC	F9EBR .....	19.90
F7E .....	65.00	F9EL .....	13.98
F7F .....	39.00	F9EC .....	109.00
F7FP .....	DISC	F9ECM .....	139.00
F71 .....	22.20	F9F .....	6.25
F7J200 .....	DISC	F9FB .....	10.20
F7PD .....	13.35	F9FBR .....	39.90
F151 .....	5.25	F9FL .....	5.50
F7SL .....	59.95		

## PAGE 11

F15FA .....	21.45	F7G125 .....	5.45
F15FA .....	21.45	F7G130 .....	5.45
C15G .....	9.45	F7G135 .....	5.45
F15H .....	22.75	F7G140 .....	5.45
F151 .....	5.25	F7G145 .....	5.45
F15J .....	5.50	F7G150 .....	5.45
F15K .....	4.95	F7G155 .....	5.45
F15L .....	4.45		
F15M .....	11.50		

## PAGE 10

F15FA .....	21.45	F7G125 .....	5.45
C15G .....	9.45	F7G130 .....	5.45
F15H .....	22.75	F7G135 .....	5.45
F151 .....	5.25	F7G140 .....	5.45
F15J .....	5.50	F7G145 .....	5.45
F15K .....	4.95	F7G150 .....	5.45
F15L .....	4.45	F7G155 .....	5.45
F15M .....	11.50		



**page 11 continued**

F9G ..... 8.35  
 F9GB ..... 22.60  
 F9GL ..... 3.65  
 F9C ..... 59.00  
 F9CL ..... 35.00  
 F9SL ..... 2.25  
 F9HD ..... 9.25  
 F9D ..... 39.00  
 F9DB ..... 48.50  
 F539 ..... 2.37  
 F9DA ..... 55.00  
 C9M ..... 59.75  
 C9U ..... DISC  
 F9H ..... 169.00  
 F9HT ..... 36.95  
 F9HTF ..... 36.95  
 F9HTC ..... 5.75  
 F9S ..... 5.95  
 S9A ..... 349.00  
 S9AE ..... 424.49  
 F9BB ..... 11.25  
 S9E ..... 5.95  
 S9EC ..... 99.50  
 F9FB ..... 8.75  
 S9FE ..... 7.65  
 S9G ..... 15.40  
 S9C ..... 37.75  
 S9SL ..... 1.60  
 S9H ..... 119.50  
 S9HL ..... 24.25  
 S9HT ..... 35.00  
 S9HTR ..... 39.00  
 F9HTC ..... 5.75  
 C9U ..... DISC

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F23A ..... 99.00  
 F23B ..... 99.00  
 F23C9 ..... 19.50  
 F23C10 ..... 19.50  
 F23G ..... 11.95  
 F23F ..... 135.00  
 F23SS ..... DISC  
 F23MS ..... 225.00  
 F23MA ..... DISC  
 F27A ..... 42.00  
 F27B ..... 27.50  
 F27BH ..... 19.00  
 F25ACR ..... 79.50  
 F25BCR ..... 79.50  
 F25C10 ..... 67.50  
 F25C16 ..... 67.50  
 F25DC ..... 145.00  
 F25DCR ..... 159.00  
 F25DCW ..... 159.00  
 F25E ..... 10.00  
 F25ER ..... 13.50  
 ABS3STF ..... 10.80  
 ABS345F ..... 18.00  
 ABS390F ..... 18.00

F25FM ..... 12.75  
 F25FM5 ..... 12.75  
 F25MM ..... 7.20  
 4NF2BS ..... 5.30

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BSM6-6 ..... 4.75  
 ATGA2 ..... 27.50  
 ATGA2D ..... 49.50  
 ATGA2H ..... 49.50  
 ATGA21 ..... 49.50  
 ATGA2J ..... 49.50  
 F26A ..... 11.25  
 F26B ..... 9.50  
 F26C ..... CALL  
 F26T ..... 4.25  
 F26L ..... 10.25  
 F26WS ..... 29.95  
 F13A ..... 285.00  
 F13AA ..... 190.00  
 F13B66 ..... DISC  
 F13B72 ..... DISC  
 F13B84 ..... DISC  
 F13B96 ..... DISC  
 F13B108 ..... DISC  
 F13C ..... 7.50  
 F13D ..... 92.50  
 F13E ..... 35.00  
 F13F ..... 79.50  
 F6A ..... 62.00  
 F6B ..... 142.50  
 S6A ..... 74.50  
 S6AA ..... 62.50  
 F6G ..... 119.00  
 F6GA ..... 119.00  
 F6H ..... 116.80  
 F6HA ..... 119.00  
 F6K ..... 13.50  
 F6M ..... 10.50  
 F6N ..... 11.50  
 F61 ..... 124.50  
 S61 ..... 99.50

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F17A ..... 94.50  
 F17B ..... 189.00  
 F17C ..... 32.95  
 F17D ..... 17.95  
 F17E ..... 32.00  
 F17F ..... 87.50  
 F17FL ..... 59.00  
 F17FB ..... 9.95  
 F17FA ..... 24.95  
 F11D ..... 169.00  
 F11A ..... 499.50  
 F11AA ..... 409.00  
 F11AQ ..... 395.00  
 F11E ..... 92.50  
 F11B ..... 99.50  
 F11BK ..... 15.50

F11BQ ..... 9.00  
 F11C ..... 159.50  
 F11F ..... 18.00  
 WC26 ..... 40.00  
 WC27 ..... 2.00  
 F11G ..... 3.60  
 F11H ..... 6.95  
 F11SPL ..... 261.50  
 S11D ..... 95.00  
 S11A ..... 489.00  
 S11AA ..... 409.00  
 S11AQ ..... 395.00  
 S11E ..... 89.00  
 S11EA ..... 49.50  
 S11B ..... 99.50  
 F11BK ..... 15.50  
 F11BQ ..... 9.00  
 F11F ..... 8.25  
 WC26 ..... 40.00  
 WC27 ..... 2.00  
 F11G ..... 2.55  
 S11H ..... 6.95  
 S11SPL ..... DISC

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F19T ..... 695.00  
 F19B ..... 624.50  
 F19T1 ..... 695.00  
 F19AT ..... DISC  
 F19FP ..... 789.00  
 F19FF ..... 14.95  
 F19H ..... 375.00  
 F19HF ..... 675.00  
 F19TA ..... 57.75  
 F19TB ..... 57.75  
 F19F ..... DISC  
 F19FA ..... 545.00  
 F19FB ..... 345.00  
 F19G ..... 395.00  
 F19CS ..... 28.90  
 F19FS ..... 44.45  
 F19FPK ..... 495.00  
 F19KTP ..... 369.00  
 F19TKT ..... 395.00  
 F19TKT1 ..... 395.00  
 F19RS ..... 229.00  
 F19RST ..... 259.00  
 F195/8 ..... 110.25  
 F197/8 ..... 110.25  
 F198/8 ..... 110.25  
 F19SG ..... 89.00  
 F19SGB ..... 115.00  
 F19D ..... 235.00  
 F19E ..... 489.00  
 F19EM ..... 525.00  
 F19EL ..... 540.00  
 S19SC ..... 1250.00  
 S19SK ..... 950.00  
 S19T ..... 775.00  
 S19A ..... 1025.00  
 S19AB ..... 1075.00

S19AC ..... DISC  
 S19AD ..... 825.00  
 S19T2 ..... 665.00  
 S19F ..... 395.00  
 S19FA ..... 479.00  
 S19CS ..... 31.50  
 F19FS ..... 44.45  
 S61 ..... 99.50  
 S19DB ..... DISC  
 S19P ..... 86.50  
 S19EJ ..... DISC  
 S19DP ..... DISC  
 S19PA ..... 89.00  
 S19J ..... DISC

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S19BS ..... 16.00  
 S19B ..... 28.50  
 S19BL ..... 18.50  
 S19R ..... 39.95  
 S19S ..... 74.50  
 S19K ..... 17.95  
 S19PR ..... DISC  
 AFAN8 ..... 29.50  
 AFAN10 ..... 29.50  
 AFAN12 ..... 29.50  
 AFBS8 ..... 29.50  
 AFBS10 ..... 29.50  
 AFST10 ..... 17.50  
 AFST12 ..... 17.50

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F14A ..... 55.00  
 F14A2 ..... 52.50  
 F14AB ..... 46.70  
 F14AF ..... 27.50  
 F14AK ..... 83.50  
 F14AKH ..... 87.50  
 F14AM4 ..... 89.00  
 F14AM5 ..... 89.00  
 F14AM6 ..... 89.50  
 F14B ..... 68.50  
 F14B2 ..... 75.50  
 F14BB ..... 32.50  
 F14BK ..... 83.50  
 F14BKH ..... 89.00  
 F14BM4 ..... 89.00  
 F14BM5 ..... 89.00  
 F14BM6 ..... 89.00  
 F14JF ..... 44.95  
 F14JK ..... 115.00  
 F14JM ..... 99.00  
 F14H ..... 90.20  
 F14H2 ..... 65.50  
 F14HB ..... 35.00  
 F14HH ..... 39.00  
 F14HK ..... 94.00  
 F14HKH ..... 99.00  
 F14HM ..... 99.50  
 F14C ..... 75.50

F14C2 ..... 53.00  
 F14CC ..... 35.00  
 F14CK ..... 89.50  
 F14CKH ..... 99.00  
 F14CM ..... 120.00  
 F14D ..... 60.50  
 F14DAF ..... 24.50  
 F14DD ..... 44.50  
 F14DK ..... 95.00  
 F14DKH ..... 109.00  
 F14DM ..... 89.00  
 F14E ..... 42.95  
 F14EE ..... 35.00  
 F14EM ..... 55.00  
 F14TM ..... 59.95  
 F14TMS ..... 65.97

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MCG62 ..... 122.50  
 MCG70 ..... 122.50  
 MCG75 ..... 122.50  
 MCG62R ..... 109.00  
 MCG70R ..... 109.00  
 MCG75R ..... 109.00  
 MCGCL ..... 5.00  
 MCGCS ..... 6.50  
 MCRG1 ..... 23.00  
 MBG1 ..... 11.95  
 MCL62 ..... N/A  
 MCL70 ..... N/A  
 MCL75 ..... N/A  
 MCL62L ..... CALL  
 MCL70L ..... CALL  
 MCL75L ..... CALL  
 MCL62R ..... CALL  
 MCL70R ..... CALL  
 MCL75R ..... CALL  
 MCLC ..... 2.95  
 MCRL1 ..... 9.95  
 MCRL2 ..... 2.25  
 MCL62B ..... 125.00  
 MCL75B ..... 125.00  
 MCL87B ..... 125.00  
 MCL10B ..... 125.00  
 RKG62 ..... 19.50  
 RKG70 ..... 21.50  
 RKG75 ..... 19.50  
 RKL62 ..... 23.50  
 RKL70 ..... 23.50  
 RKL70A ..... 23.50  
 RKL75 ..... 23.50  
 RKL75A ..... 19.50  
 MBAG ..... 7.50  
 MFR1 ..... 9.99  
 MFR2 ..... 25.99  
 MFR3 ..... 34.99

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MCT62 ..... 75.00  
 MCT70 ..... 75.00

MCT75 ..... 75.00  
 MCT87 ..... 75.00  
 MCT10 ..... 75.00  
 MCT125 ..... 75.00  
 F425 ..... 92.50  
 F425R ..... 92.50  
 BC19L ..... 195.00  
 BC19R ..... 195.00  
 BC20L ..... 235.00  
 BC20R ..... 235.00  
 BCP19 ..... 19.90  
 RKCA2 ..... 16.95  
 RKCA3 ..... 16.95  
 RKCG12 ..... 39.50  
 RKCG14 ..... 19.50  
 RKCL19 ..... 18.50  
 RKCL20 ..... 29.50  
 RKCL65 ..... 21.00  
 RK19S ..... DISC  
 WC39U ..... 109.00  
 WC39U ..... 77.00  
 RKS87 ..... 11.25  
 MC550 ..... DISC  
 MC570 ..... DISC  
 MC57-6 ..... DISC  
 MC57-C ..... DISC  
 BVT3 ..... 99.50  
 BVT4 ..... 99.50  
 BVT1 ..... 99.50  
 BVWL ..... 81.75  
 BVWK ..... 63.50  
 BCV1 ..... 30.00  
 BPV2 ..... 24.00  
 BPV10 ..... 24.00

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W12B ..... DISC  
 WA1 ..... DISC  
 WA10 ..... DISC  
 WA12 ..... DISC  
 WA13 ..... DISC  
 WA14 ..... DISC  
 WA15 ..... DISC  
 WA16 ..... DISC  
 WA19 ..... DISC  
 WA2 ..... DISC  
 WA20 ..... DISC  
 WA20S(W20S) ..... DISC  
 WA21 ..... DISC  
 WA22 ..... DISC  
 WA23 ..... DISC  
 WA24 ..... DISC  
 WA25 ..... DISC  
 WA26 ..... DISC  
 WA27 ..... DISC  
 WA28 ..... DISC  
 WA29 ..... DISC  
 WA3 ..... DISC  
 WA30 ..... DISC  
 WA31 ..... DISC

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WA31 ..... DISC	16 ..... DISC	WB19 ..... DISC	W3S1725 ..... DISC	F208 ..... DISC
WA32 ..... DISC	WC29-20 ..... DISC	WB20 ..... DISC	W3S1822 ..... DISC	F209 ..... DISC
WA33 ..... DISC	WC3 ..... DISC	WB21 ..... DISC	W3S1824 ..... DISC	F30 ..... DISC
WA34 ..... DISC	WC30-16 ..... DISC		W3S1922 ..... DISC	F30-200 ..... DISC

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WA35 ..... DISC	WC31 ..... DISC	W1338 ..... DISC	W3S1923 ..... DISC	S202 ..... DISC
WA36 ..... DISC	WC32 ..... DISC	W1437 ..... DISC	W3S2025 ..... DISC	S204 ..... DISC
WA37 ..... DISC	WC33 ..... DISC	W1438 ..... DISC	W3S2124 ..... DISC	C202 ..... DISC
WA38 ..... DISC	WC34 ..... DISC	W1536 ..... DISC	W3S2125 ..... DISC	
WA39 ..... DISC	WC35 ..... DISC	W1537 ..... DISC	W3S2426 ..... DISC	
WA4 ..... DISC	WC36 ..... DISC	W1536 ..... DISC	W3S2427 ..... DISC	
WA40 ..... DISC	WC39 ..... DISC	W1636 ..... DISC	W3S2526 ..... DISC	
WA40A ..... DISC	RKS87 ..... 11.25	W1635 ..... DISC		
WA41 ..... DISC	WC43 ..... DISC	W1634 ..... DISC		
WA41-4 ..... DISC	WC43T ..... 369.00	W1735 ..... DISC		
WA42 ..... DISC	WC44 ..... DISC	W1734 ..... DISC		
WA42A ..... DISC	WC44F3 ..... DISC	W1733 ..... DISC		
WA48 ..... DISC	WC44S2 ..... DISC	W1834 ..... DISC		
WA52 ..... DISC	WC44S2R ..... DISC	W1833 ..... DISC		
WA54 ..... DISC	WC45 ..... DISC	W1832 ..... DISC		
WA57 ..... DISC	WC46 ..... DISC	W1933 ..... DISC		
WA58-4 ..... DISC	WC5 ..... DISC	W1932 ..... DISC		
WA59 ..... DISC	WC6 ..... DISC	W1931 ..... DISC		
WA61 ..... DISC	WC7-4 ..... DISC	W2032 ..... DISC		
WA66 ..... DISC	WC8 ..... DISC	W2031 ..... DISC		
WA7 ..... DISC	WC9 ..... DISC	W2030 ..... DISC		
WA8 ..... DISC		W2131 ..... DISC		

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WC1 ..... DISC	WB1 ..... DISC	W2130 ..... DISC	W1D1536 ..... DISC	
WC10 ..... DISC	WB2 ..... DISC	W2129 ..... DISC	W1D1635 ..... DISC	
WC11 ..... DISC	WB3 ..... DISC	W2230 ..... DISC	W1D1735 ..... DISC	
WC13 ..... DISC	WB4 ..... DISC	W2229 ..... DISC	W1D1734 ..... DISC	
WC14 ..... DISC	WB5 ..... DISC	W2228 ..... DISC	W1D1733 ..... DISC	
WC15 ..... DISC	WB6 ..... DISC	W2329 ..... DISC	W1D1834 ..... DISC	
WC16 ..... DISC	WB8 ..... DISC	W2328 ..... DISC	W1D1833 ..... DISC	
WC17 ..... DISC	WB11 ..... DISC	W2125 ..... DISC	W1D1832 ..... DISC	
WC18 ..... DISC	WB11 ..... DISC	W2327 ..... DISC	W1D1933 ..... DISC	
WC19 ..... DISC	WB11 ..... DISC	W2428 ..... DISC	W1D1932 ..... DISC	
WC2 ..... DISC	WB11 ..... DISC	W2124 ..... DISC	W1D1931 ..... DISC	
WC2A ..... DISC	WB13 ..... DISC	W2427 ..... DISC	W1D2032 ..... DISC	
WC20 ..... DISC	WB13 ..... DISC	W2426 ..... DISC	W1D2031 ..... DISC	
WC21 ..... DISC	WB14 ..... DISC	W2527 ..... DISC	W1D2032 ..... DISC	
WC21L ..... DISC	WB14 ..... DISC	W2626 ..... DISC	W1D2031 ..... DISC	
WC21S2 ..... DISC	WB15 ..... DISC	W2625 ..... DISC	W1D2030 ..... DISC	
WC21SV ..... DISC	WB15 ..... DISC	W2725 ..... DISC	W1D2131 ..... DISC	
WC22 ..... DISC	WB16 ..... DISC	W2724 ..... DISC	W1D2130 ..... DISC	
WC23 ..... DISC	WB17 ..... DISC	W2724 ..... DISC	W1D2129 ..... DISC	
WC24 ..... DISC	WB18 ..... DISC	W2S1327 ..... DISC	W1D2230 ..... DISC	
WC24A ..... DISC	F20A50 ..... DISC	W2S1426 ..... DISC	W1D2229 ..... DISC	
WC25 ..... DISC	F20A55 ..... DISC	W2S1427 ..... DISC	W1D2228 ..... DISC	
WC26 ..... DISC	F20A60 ..... DISC	W2S1428 ..... DISC	W1D2227 ..... DISC	
WC27 ..... DISC	F20A65 ..... DISC	W2S1430 ..... DISC	W1D2226 ..... DISC	
WC28 ..... DISC	F20A70 ..... DISC	W2S1527 ..... DISC	W1D2225 ..... DISC	
WC28F3 ..... DISC	F20A75 ..... DISC	W3S1426 ..... DISC	W1D2224 ..... DISC	
WC28S2 ..... DISC	F20A80 ..... DISC	W3S1427 ..... DISC	W1D2223 ..... DISC	
WC28S2R ..... DISC	F20A85 ..... DISC	W3S1525 ..... DISC	W1D2222 ..... DISC	
	F20AS1 ..... DISC	W3S1526 ..... DISC	W1D2221 ..... DISC	
	F20AS2 ..... DISC	W3S1527 ..... DISC	W1D2220 ..... DISC	
	C205 ..... DISC	W3S1624 ..... DISC	W1D2219 ..... DISC	
	F202 ..... DISC	W3S1625 ..... DISC	W1D2218 ..... DISC	
	F203 ..... DISC	W3S1626 ..... DISC	W1D2217 ..... DISC	
	F204 ..... DISC	W3S1723 ..... DISC	W1D2216 ..... DISC	
	F206 ..... DISC	W3S1724 ..... DISC	W1D2215 ..... DISC	

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F21A ..... 12.95
F21B ..... 10.55
F20A40 ..... DISC
F20A45 ..... DISC

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F23G ..... 11.95
S2DT ..... 6.45
F30C ..... 65.00
F30B ..... 14.00
HWST ..... 55.00
F3VT ..... DISC
F2LT ..... DISC
F30E ..... 49.00
F30PB ..... 79.00
F29A ..... DISC
F29C ..... DISC
F29E ..... DISC
F29D ..... DISC
F29Q ..... DISC
F11H ..... 6.95
S11H ..... 6.95
F18A ..... DISC
F18B ..... DISC
F18C ..... DISC
F18D ..... DISC
C550L ..... DISC
C2S ..... DISC
C2L ..... DISC
C5CL ..... DISC
F22DR ..... DISC
FG451 ..... 225.00
FG453 ..... 179.00
FG452 ..... 179.00

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F521U ..... 375.00
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**PAGE 30-31**

F521CA ..... 375.00
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**PAGE 32-33**

F521C ..... 375.00
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**PAGE 34-35**

F521D ..... 375.00
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*BAT makes every effort to maintain our current prices for as long as possible, however we do reserve the right to make price adjustments without notice.*

# **Terms of Business**

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## **Hours**

Order desk hours are Monday through Friday 9:00 a.m. until 5:00 p.m. Eastern Time. Whenever possible orders received before 12:00 noon will be processed and shipped the same day. If anyone would like to visit our location we would like to request that you please make an appointment before dropping by. We enjoy seeing our customers, discussing their cars, and showing them our latest developments, however, some days or times of day are better for us to give the attention we like to offer.

## **Ordering Procedure**

You may place an order by telephone, fax, or by mail. Ordering by telephone will connect you to a technical-sales advisor who will help with any questions, or make ordering recommendations, if you require. Knowing your 6 digit BAT customer number, catalog part numbers, quantities, and description of order items will help minimize any possible errors in processing your order. Telephone orders may be placed during business hours as listed above. Fax orders may be placed anytime day or night.

## **Payment**

Payment may be made by Visa, Master Card, Money Order or Personal Check. Orders which have been paid for by Personal Check will be shipped only after the check has cleared (allow up to 14 days). Orders accompanied by Personal Checks that have been bank certified will be shipped with out delay. We have no objections to shipping on a COD basis if required, however, all COD's must be paid upon delivery with cash or certified check. When ordering by mail or fax by Visa or Master Card be sure to include your card number and expiration date. Residents of countries outside the United States must pre-pay for their goods in U.S. currency. All prices for goods shipped outside the continental United States are quoted FOB Sarasota, FL. All shipping/duty charges must be the responsibility of the consignee at rates applicable to that particular country.

## **Shipping**

Unless otherwise stated all orders will be shipped by United Parcel Service (UPS) surface system. We can also ship by an express (overnight, 2 day or 3 day) service if required, check with us for details and additional charges. Items too large or heavy for UPS service will be shipped common carrier (truck) freight collect. Optional shipping services include Surface Mail, Air Mail, and Air Freight at current rates.

## **Back Orders**

We dislike back orders as much as you do, and although we carry a huge inventory of merchandise it is inevitable that we will sometimes run out of certain items. In this case we will hold the order open and ship the back ordered item directly when the item becomes available. If an item looks like it will be on back order for longer than 4 weeks we will try and let you know the approximate time of delivery. You will then have the opportunity to re-confirm or cancel your order.

## **Special Orders**

Some items that we offer are available as special orders. This includes custom variations on catalog items and race prepared parts. All special order items require a 50% deposit at the time the order is placed with the balance due at time of shipping. You will be advised at the time of your order if any item falls into this category.

## **Returns**

All returns must be authorized by BAT with in 30 days of the invoice date and must be sent prepaid. Returns must have an authorized RGA number and be accompanied by a copy of the original invoice. A restocking charge of 20% may be assessed at our discretion depending on the reason for the return. Certain parts such as bearings, electrical items and piston rings or any part that has been modified or installed in any way are not returnable.

## **Warranties**

All parts are covered only by the manufacturers warranties and/or guarantees. BAT Inc. can assume no responsibility or liability for use or application by the user. Claims for goods damaged in transit are the responsibility of the carrier. You should always examine the contents of your package and notify the carrier immediately if there is any sign damage.

### **- Important Notice -**

Most of the equipment in this catalog is intended for racing or off-highway use in the United States. BAT Inc. ships all over the world so we must make it the responsibility of the customer to check the legality of fitting any part to his/her car. There are many different State, Federal and provincial regulations governing the replacement of automotive parts and BAT assumes no responsibility or liability for their illegal use. Please check the regulations in your area before ordering.

**Prices and equipment are subject to change without notice.**

