

# Gen4 EFI System

#### (Naturally Aspirated or Turbo)

- Increase Power
- Cleaner Emissions
- Low-End Torque
- Increase MPG
- Throttle Response
- Easy Starting

Completely redesigned with an extensive new list of features and ALL NEW software!

#### **ECU features:**

- 32bit processor, Marine grade locking connectors,
   4mb of internal storage
- 8 High or Low impedance Injector drivers.
- 4 On board Direct Fire Ignition Drivers. Each driver can fire up to 2 coils.
- 8 Smart Coil drivers
- VR Crank and Cam Input (36-1 Trigger Wheel supported for crankshaft position)
- Hall Effect Crank and Cam Input
- Coil Negative input (also accepts this input as a ignition timing control through points or points replacement modules)
- 8 Analog 0-5 volt inputs
- 8 Digital Inputs
- On Board 2.5 Bar MAP sensor or external 1,2,3 or 5 Bar MAP input
- On Board Barometer sensor (Adjusts tune automatically for altitude)
- 4 On Board Wideband O2 sensors
- 4 On Board K-Type EGT controllers
- H-Bridge Idle Air Control
- Gas, Methanol or E-85 Compatible (AFR displayed in gas scale)
- Boost Controller
- Water/Meth Controller
- 6 Outputs (1-amp max each)
- Rev-Limiter and 2-Step Rev Limiter
- 2 stage Dry Nitrous Control
- · Lean A/F protection
- 7075 CB's Gen4 EFI System (Naturally Aspirated or Turbo)
- 7078 CB's Gen4 EFI Wiring Harness
- 7079 CB's Gen4 EFI Wide Band Upgrade

#### Software Features:

- 20x20 Fuel, Ignition, Air Fuel Ratio, High/Low learn limits, Water/Meth Table Sizes.
- Speed Density or Alpha-N configurable load boundaries
- Pulse Width or VE based Fuel Table tuning strategies
- · Individual Ignition coil trim
- Individual injector trim, including Idle Midrange and wide open throttle
- Assisted tuning strategy via closed loop and learning, user selectable
- Adjustable Spark Dwell based on load and Temperature
- Temperature based timing compensation
- Internal data logger allows you to export data after run or tuning session
- Turbo Over boost and Anti-lag
- · Sensor low and high limits settings, with sensor fail defaults
- Temperature based enrichment settings
- · Air Intake Temp Compensation
- Selectable Voltage Injector trim
- Staged Injection via TPS and/or MAP
- Single or 2 stage Nitrous Oxide Control
- Lean fuel protection

Take full control of your engine's fuel delivery and ignition system!

# Simply the BEST EFI System we've ever offered!

Features an all new Dashboard Screen with 13 gauge layout.

NOTE: Requires a Windows Based Computer with Windows XP, Vista, Windows 7, or Windows 8.

Does not work with MacOS, iOS, WinRT, or Android.





Gen4 Naturally Aspirated Kits include the following:

- Gen4 ECU
- Wiring Harness
- Wideband O2 Sensor and bung
- Linkage Kit
- Linkage Crossbar
- Injectors w/Clips
- Gasket Set
- Fuel Rails
- #7132 Cylinder Head Temp Sensor
- #7163 Fuel Pressure Sensor
- #7133 Intake Air Temp Sensor
- Hardware Kit
- #7315t Fuel Pump
- #7138 14mm Full Flow Fuel Filter

- #7161 Fuel Pressure Regulator
- #3179 Fuel Pump Block Off Plate
- Fuel Tee
- Manifolds
- Throttle Bodies
- Rubber Hose
- · Air Cleaner Bases, Tops, Hardware
- Air Cleaner Elements (3 1/4")
- (4) Velocity Stacks
- Serial Cable and USB Adapter
- Instruction Manual and CD

(all hardware, hoses, clamps, fittings and gaskets are listed on our website)



Gen4 Turbo Kits also include these additional items:

- #7489 Hybrid Turbo
- Turbo Header
- Modified A/C Bases, Pressure Covers
- Pressure Pipe (T)
- Extension Pipe (S)
- Air Cleaner Pipe (J)
- #7250 2.5" Air Cleaner
- #7637 Racing Turbo Exhaust Tail Pipe
- #7241 TurboSmart Waste Gate
- #1770 Drilled Thin Line Oil Sump

CALL TO ORDER 1-800-274-8337

### **Gen4 Touch Screen Display**

Engineered to work with CB's Gen4 EFI, it's an affordable alternative for customers who are looking to add an LCD touch-screen to their vehicles, allowing them to monitor critical engine parameters from the driver's seat! You can use it to configure warnings, alarms and also to set and recall max/min values of monitored data. NOTE: Gen4 ECU's w/Serial #'s 4001 through 4200 will require a firmware update.

7076 CB's Gen4 Touch Screen Display



- Increase horsepower safely by 10-15%
- · Lower air temperatures by 50 to 200°+
- Increase octane when you need it under boost
- Reduce cylinder temperatures up to 300°+
- No wear issues just clean combustion chambers
- · Allows you to safely run more boost and timing For use with CB's Gen4 Turbo EFI Kit, or as a stand-alone kit.

7060 Water-Methanol Injection KIt

Micro Cam-Sync

Sequential spark requires the EFI ecu to know where #1 cylinder is in the firing order of the engine.

The use of a Micro Cam-Sync is the easiest way of accomplishing this task. The cam sync replaces the distributor, triggering the EFI

ECU when #1 cylinder is reached in the firing order. The ECU then fires each coil individually based on the firing order of the engine.

7073 Micro Cam-Sync Replacement ECU's

The #7072 does not work with Mac OS, or Windows 7, but does work with Windows 8! Replacement ECU for QuickTune EFI System. Please contact Pat or Mark at CB Performance for help with initial programming.

A Gen4 EFI Replacement ECU is also available.

7072 CB's QuickTune EFI - Replacement ECU

7077 CB's Gen4 EFI - Replacement ECU

Replacement Crankshaft **Position Sensor** 

Replacement sensor for Crank Trigger Ignition Systems.

Fits CB #2092, #2093 & #2094.



CB Select-A-Boost

Need more Power? Crank it up!

Boost Adjust on the fly is now possible with the CB Select-A-Boost!

settings, remote mountable, programmable Magnaspark

**CB Select-A-Boost** 2095





**Replacement Crankshaft Position Sensor** 7134

#### All-In-One Turbo Hideaway Kit

Includes most everything you need to convert your engine into a Turbo-powered Beast! Add Aluminum Pressure Covers, S/S Hose Clamps, and either EFI or carburetors and you're good to go!

The Turbo is a #7489 T03/T04 Hybrid Turbo with a 0.63 A/R Exhaust Housing P-Trim Turbine Wheel, H-Trim Compressor Housing (0.70 A/R), and a 59mm Compressor Wheel.

The Silicon Ducting Hose is available in BLACK, BLUE or RED.

Included in the #7169 kit (but also available separately) is the #7170 Hideaway Turbo Oil Drain Kit, featuring our #1770 Thin Line Oil Sump, drilled and tapped, including all the pieces you'd need to setup your Turbo Drain properly.

The #7171 Hideaway Turbo Oil Pressure Kit, features 6" Metal Braided Line, an Oil Feed Block and a few couplers to keep your turbo system properly pressurized.

Lastly, we've also included a #7172 Hideaway Turbo Hardware Pack, with Twelve 8 x 35 Allen Bolts, Twelve 8 x 11 nuts, Twenty-four 8mm washers and Four 8 x 35 Studs.

7169	All-In-One Turbo Hideaway Kit
7170	Hideaway Turbo Oil Drain Kit
7171	Hideaway Turbo Oil Pressure Kit
7172	Hideaway Turbo Hardware Kit





Gen4 Boost Control Upgrade

Tired of buying expensive boost level springs for your waste gate?

Adding the CB Gen4 Boost Control Upgrade in conjunction with the #7075t Gen4 Turbo EFI System allows for easy control of boost, turbo anti-lag and even over

boost protection - a must have for hot street cars and race cars.

2091 Gen4 Boost Control Upgrade

#### Idle Air Control Motor Kit

Civilize your cold starts!

The Idle Air Control Motor Kit electronically controls idle speed through the Gen4 EFI system.

Bypasses vacuum on a cold engine to help raise up the idle RPM's during engine

warm up. CB highly recommends this Idle Air Control Motor Kit for vehicles that are running an aftermarket Air Conditioning setup.

7330 Idle Air Control Motor Kit



#### T03/T04 Hybrid Turbo

This turbo is capable of producing 450+ horsepower!

- Your choice of a 0.48, .63 or .82 A/R Exhaust Housing Stage 3 Turbine Wheel
- H-Trim Compressor Housing (0.70 A/R)
- 59mm Compressor Wheel
- 2 3/4" inlet diameter, 2" outlet diameter
- An External WasteGate (#7241) is required to provide design flexibility and precise boost control.

A/R Size	0.48	0.63	0.82
Part #	7488	7489	7490



#### **Turbosmart Accessories**

- Small and lightweight, with high-end features and build quality
- Suitable for all turbocharged vehicles with an external wastegate
- Street and racing applications.
- Flanges suit 1.50" OD pipe



7241	Wastegate - Ultragate38 by TurboSmart
7242	1/16 NPT to -3 AN Fitting for the TurboSmart Ultragate38
7245	Billet Wastegate Pressure Diaphragm - molded silicon
7252	5 PSI Inner Spring for Turbosmart Wastegate
7253	7 PSI Outer Spring for Turbosmart Wastegate
7254	3 PSI Inner Spring for Turbosmart Wastegate

- Easy to install and adjust.
- Smaller and lighter than other Manual Boost Controllers
- Boost adjustable from under the hood with an accurate, proven Detent System.



#### 7244 Boost Tee by TurboSmart

- 20% smaller & 33% lighter than its predecessor!
- Ideal choice for larger capacity, space-restricted engines
- Preferred choice of drifting & circuit enthusiasts.



7251 Vee Port Pro Blowoff Valve (Black) Turbosmart

7255 Stainless Steel Blowoff Valve Adapter

#### Silicone Ducting Hose

- Outperforms organic rubber hoses
- Resists temps over 550° F
- 2", 2 1/4" or 2 1/2" ID hose
- Available in Black, Red or Blue
- Sold per foot.



2" hose	7642 Black	7643 Red	7644 Blue
2 1/4" hose	7647 Black	7648 Red	7649 Blue
2 1/20" hose	7664 Black	7665 Red	7666 Blue

7630 3" long Pressure Hose Union (specify diameter & color)

#### S/S T-bolt Clamps

- For use with turbo silicon hoses
- 100% Stainless Steel construction
- Radiused edges to prevent cutting & damaging of hoses

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THE

POWER SEAL

CLAMP!

7609	S/S T-Bolt Clamps - 2 5/16" to 2 1/2" (fits 2" ID Hose)
7622	S/S T-Bolt Clamps - 2 1/2" to 2 11/16" (fits 2 1/4" ID Hose)
7623	S/S T-Bolt Clamps - 2" to 2 5/32"
7624	S/S T-Bolt Clamps - 2 5/32" to 2 5/16"
7626	S/S T-Bolt Clamps - 2 11/16" to 2 7/8" (fits 2 1/2" ID Hose)
7629	2" Stainless Steel Clamp

#### **Pressure Ducts**

- Formed from mandrel bent 2" tubing
- Matches 2" turbo outlets.



7321t Pressure Duct Kit - Sedan (3 pieces	7321t	ssure Duct Kit - Sedan (3 pieces)
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7336t Pressure Ducts - Baja Sedan/Buggy (fits T03)

#### **Turbo Inlet Air Filters**



7250	fits Baja Bug/Buggy Turbo A/C (4 1/2" x 6" x 2 1/2" neck)
7303	fits Hideaway Sedan Turbo A/C (3 3/8" x 4" x 2" neck)
7344	fits Baja Bug/Buggy Turbo A/C (6" x 5" x 2 3/4" neck)

#### **Aluminum Pressure Covers**

- Features 2" inlets
- Available in left or right
- Gaskets & Hardware Kits are available seperately.



7312t	Alum. Pressure Cover (right) fits offset manifolds
7313t	Alum. Pressure Cover (left) fits offset manifolds
7615	Alum. Pressure Cover (right) fits CE w/straight manifolds
7616	Alum. Pressure Cover (left) fits CE w/straight manifolds
7617	Alum. Pressure Cover (right) low profile applications (356)
7618	Alum. Pressure Cover (left) low profile applications (356)



7333t	Aluminum Pressure Cover - unfinished
7335t	Aluminum Pressure Cover Hardware Kit
7337t	Aluminum Pressure Cover Gasket - rubber (each)
3413t	DRLA Turbo A/C Base (right) w/linkage support
3414t	DRLA Turbo A/C Base (left) w/linkage support



# **Throttle Bodies (pairs)**

- 100% Made in the USA!
- Hand assembled and Flow Synced in-house
- Includes cast-in bosses designed to accept electronic fuel injectors (sold separately)
- Available either with or without machined injector ports
- Dimensionally (external) the same as IDF or DRLA carburetors, allowing the use of existing manifolds, throttle linkage and air filters.
- Fuel rail, injectors, TPS and hardware are sold separately

	Omm Throttle Bodies (1 pair)
7356 48	Bmm Throttle Bodies (1 pair)
7097 40	Omm Throttle Bodies - w/ Injector Ports (1 pair)
7098 48	Bmm Throttle Bodies - w/ Injector Ports (1 pair)



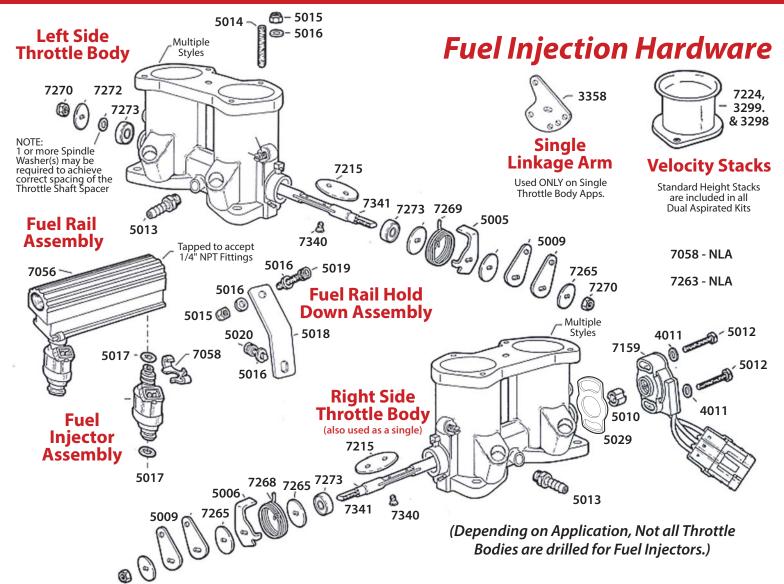


# Single Throttle Body

- 100% Made in the USA!
- Hand assembled and Flow Synced in-house
- Includes cast-in bosses designed to accept electronic fuel injectors (sold separately)
- Available either with or without machined injector ports
- Dimensionally (external) the same as IDF or DRLA carburetors, allowing the use of existing manifolds, throttle linkage and air filters.
- Fuel rail, injectors, TPS and hardware are sold separately

7357	40mm Throttle Body - Single
7358	48mm Throttle Body - Single





2702	Base Gasket - 45-48mm Dellorto DRLA
3298	Super Tall 6" Velocity Stack (Polished) IDF & DRLA (each)
3299	Super Tall 6" Velocity Stack - IDF & DRLA (each)
3358	Single Linkage Arm
5005	Left Side Throttle Lever
5006	Right Side Throttle Lever
5007	Idle Throttle Valve Adjusting Screw
5008	Spring For Idle Adjusting Screw
5009	Left & Right Side Linkage Arms
5010	TPS Adapter
5011	Washer
5012	TPS Securing Bolt
5013	1/8" NPT x 1/4" Hose Barbed Fitting
5014	6 x 35mm A/C Base Stud
5015	6mm Nyloc Nut
5016	6mm Flat Washer
5017	Upper or Lower Injector O ring
5018	Fuel Rail Securing Bracket
5019	6 x 25 Fuel Rail Sec. Bracket Allen Bolt (throttle body side)

5020	6 X 10 Fuel Rail Sec. Bracket Allen Bolt (luel rail side)
5021	Throttle Body Air Filter Base Gasket
5029	New Style TPS Spacer
7056	Fuel Rail - TB Style (5 1/16" long - 3 5/8" injector spacing)
7057	Fuel Injector Securing Clips (fits 7056) one pair
7097	40mm Throttle Bodies - w/ Injector Ports (1 pair)
7098	48mm Throttle Bodies - w/ Injector Ports (1 pair)
7159	Throttle Position Sensor (TPS)
7215	Throttle Valve DRLA (specify size)
7224	Standard Height Velocity Stacks - fits 44, 45, & 48mm,
	IDF & DRLA & 48 Throttle Bodies (1 7/8" tall)
7265	Throttle Shaft Spacer
7268	Right Side Throttle Return Spring
7269	Left Side Throttle Return Spring
7270	Throttle Spindle Nut
7272	Washer
7273	Spindle Bearing (each)
7340	Throttle Valve Securing Screw
7341	Throttle Valve Spindle DRLA

6 x 10 Fuel Rail Sec Bracket Allen Rolt (fuel rail side)

# High Flow End Pieces

- 2" inlet OD, extra wide base
- Includes intake gaskets & hardware

• Can be ported to nearly any shape 50% more air flow than stock end castings!

7362	High Flow Injection End Pieces (machined for injectors )
7361	Fuel Rails (1 pair)
7363	Fuel Injector Securing Clips (one pair)
7365	Fuel Injector Bracket (for use with 7362)
5030	6 x 12mm Fuel Rail Securing Bracket Allen Bolt
5016	6mm Flat Washer

#### Offset **Manifolds**

- Includes intake gaskets & hardware
- · Works well with CB's #3137 & #3143 Linkage Kits.



7359	Offset Manifolds (machined for injectors)
7361	Fuel Rails (1 pair)
7363	Fuel Injector Securing Clips (one pair)
5024	Fuel Rail Securing Bracket
5025	8 x 12mm Nut
5026	8 x 60mm Stud

#### Comp. Eliminator Manifolds

- Increased Power!
- Quicker throttle response!
- Improved Gas Mileage!
- Includes intake gaskets & hardware
- Works well with CB's #3132, #3134, #6480 & #6485 Linkage Kits.

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3142	C.E. Manifolds (machined for injectors) IDF & DRLA
5027	Fuel Rails (1 pair) Tapped to Accept 1/4" NPT fittings
5024	Fuel Rail Securing Bracket
5025	8 x 12mm Nut
5028	8 x 70mm Stud

## **Big Beef Manifolds**

- Unlimited port design with NO WELDING!
- Includes intake gaskets & hardware



7366	Big Beef Manifolds with Fuel Injector Ports (set of 2)
7361	Fuel Rails (1 pair)
7363	Fuel Injector Securing Clips (one pair)
5025	8 x 12mm Nut
5026	8 x 60mm Stud

## **Dual Port End Castings**



Dual Port End Castings - Machined for Injectors (set of 2) 7360 5022 **Fuel Injector Securing Bracket** 

# **High Flow End Pieces**

• 50% more air flow than stock end castings, as cast!

• Featuring a 2" inlet OD and an extra wide base, they can be ported to nearly any port shape and size.

• Includes 2 Big Beef Intake Gaskets.



7367 High Flow End Pieces (set of 2)



#### **Fuel Injection Sensors**



2911	Oxygen Sensor - Single wire, non-heated

2927 Wideband O2 Sensor

7132 Cylinder Head Temperature Sensor - CHT

7133 Intake Air Temperature Sensor - IAT

7136 Oxygen Sensor Mounting Bung - weld in

7159 Throttle Position Sensor (TPS) fits CB Throttle Bodies

7163 Fuel Pressure Sensor

#### **Fuel Injectors**

Injector Types 1, 2, 4, 5, and 9 are compatible with most GM-style fuel rails and injector ports and for use with fuel injection hardware manufactured by CB Performance!

7378	Fuel Injector - Peak & Hold 2.4 Ohms/19 PPH
7393	Fuel Injector - Peak & Hold 2.2 Ohms/22 PPH
7373	Fuel Injector - Peak & Hold 2.4 Ohms/25 PPH
7381	Fuel Injector - Peak & Hold 2.2 Ohms/31 PPH
7383	Fuel Injector - Peak & Hold 2.2 Ohms/35 PPH
7399	Fuel Injector - Peak & Hold 2.4 Ohms/52 PPH
7384	Fuel Injector - Saturated 15.9 Ohms/28 PPH
7374	Fuel Injector - Saturated 15.9 Ohms/37 PPH
7398	Fuel Injector - Saturated 15.9 Ohms/42 PPH
7397	Fuel Injector - Saturated 15.9 Ohms/61 PPH

#### **Fuel Injection Connectors**



7143	Fuel Injector Connector
7146	MAP Connector (Standard one-bar)
71 47	MAD Consistent Toler to the A

7147 MAP Connector (Turbo two-bar)7149 1 Pin Weather Pak Connector (set of male & female)

7150 2 Pin Weather Pak Connector (set of male & female)

7151 3 Pin Weather Pak Connector (set of male & female)

7152 4 Pin Weather Pak Connector (set of male & female)

7153 Weather Pak Crimping Tool

7155 Weather Pak Extraction Tool Kit (3 piece)

#### **Fuel Pressure Regulators**



Increase your fuel pressure to the desired PSI. Each Fuel Pressure Regulator is adjustable using the top mounted screw, and secured with a locking cap nut. Choose from the three available models to fit your application.

7160 Monza Series (up to 10 PSI)

7161 Precision Flow Bypass EFI (25 PSI to 75 PSI)

7162 Single Diaphragm Adjustable (14 PSI to over 60 PSI)





7301t Hideaway Sedan Turbo Header

7608 Spyder / Mid-Engine Turbo Header (S2A & T03)

7610 Turbo Header 1 5/8" (T03 & T3/T4)

7637 Racing Turbo Exhaust - fits S1A & S2A, TO-3

## **Turbo Exhaust Flanges**



3690	TS Ultra38 Wastegate Flange - mild steel (set of 2)
3691	T04 Turbo Exhaust Flange Tail Pipe
3692	T04 Turbo Exhaust Flange Header (2 3/4" x 3 1/4" bolt pattern)
3693	VW Cylinder Head Exhaust Flange (2 1/4" bolt pattern, 1 1/2" center hole)
3696	T03 Turbo Exhaust Flange (2 1/2" From bolt hole to bolt hole. 3 1/2" center hole)
3697	T03 Turbo Exhaust Flange (1 3/4" x 3 3/8" bolt pattern, 1 7/8" x 2 1/8" center hole)
3698	Turbo Exhaust Flanges - Type-1 Cylinder Head Exhaust Flange - 1 5/8" ID (turbo quality)

#### **Turbo Exhaust Gaskets**



7633	Turbo Exhaust Gasket - clad steel/fiber (S1A & S2A)
7634	Turbo Exhaust Gasket - steel (T04)
1882	Copper Exhaust Gaskets - 1 1/2" (set of 4)
1883	Copper Exhaust Gaskets - 1 5/8" (set of 4)
3640	Copper Exhaust Gasket - Small 3 Bolt Flange
3641	Copper Exhaust Gasket - Large 3 Bolt Flange
2806	Turbo Exhaust Graphite Compression Gasket (S1A & S2A)
2807	Turbo Exhaust Graphite Compression Gasket (T04)
2808	Turbo Base Graphite Compression Gasket (T04)
2809	Ultragate 38 by Turbosmart Graphite Compression Gasket

#### **Modulator Ring for Turbo Carbs**

This Modulator Ring for Turbo Carbs installs where a velocity stack would usually go, and is a slightly smaller size than the venturi, which creates higher pressure above your main jets when you are under boost. Jetting usually needs to be leaned out after installation of these rings.

Fits Weber Turbo Carbs as well as Dellorto DRLA Turbo Carbs.

7368 27mm Modulator Ring for Turbo Carbs (each)7369 33mm Modulator Ring for Turbo Carbs (each)

# slightly

#### Billet Fuel Tank Outlet Tee

Threads directly into all stock sedan fuel tanks to '79 (not Super Beetle) using a 1/4" NPT dual outlet.



6483 Billet Fuel Tank Outlet Tee

#### **Turbo Drain**

The outlet port is tapped 1/2" NPT.



7620 Turbo Drain Gasket
 7627 Turbo Drain Outlet - fits S1A, S2A, TO-4, & Roto Master accepts 1/2" NPT (90 degrees)
 7628 Turbo Drain Outlet - fits S1A, S2A, TO-4 & Roto Master

accepts 1/2" NPT (straight outlet)

**Turbo Oil Inlet** 

Bolts to the top of the Turbo, allowing an 1/8" NPT fitting to be attached.

7621



7625 Turbo Oil Inlet Block - fits S1A, S2A, TO-4 & Roto Master

accepts 1/8" NPT fittings Turbo Oil Inlet Gasket Fuel Pumps

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7315t Turbo Fuel Pump for Fuel Injection7316 Airtex High Pressure Fuel Pump

#### **Fuel Filters**

This part will provide your injection system with a high volume of clean fuel.



7137 Fuel Filter (3/8 inch) Full Flow 7138 Fuel Filter (14mm) Full Flow

7139 Fuel Filter (1/4 inch) Full Flow

Carbureted Turbo Fuel Pressure Regulators

For use with boost pressures up to and exceeding 20 psi.

7246	Fuel Pressure Regulators - Turbo - Dual Carb Model
7247	Fuel Pressure Regulators - Turbo - Single Carb Model