N54 Tune Comparison

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Retail Price (Data as of 3/1/2013)	$479.00	$745.00	$895.00	$524.99	$800.00	$1,000.00	$1,799.00	Price of tune
Requirements						upgraded intercooling	Oil-Cooler Required	Requirements before installation
Installation Time	30 - 45 min	30 - 45 min	< 30 min	< 1 hour	< 1 hour	< 1 hour	< 1 hour	Time it takes to install
Installation (Home/Dealer)	Home	Home	Home/Dealer	Home/Dealer	Dealer	Dealer	Dealer	Place of installation
Installs through	ECU / USB	ECU / USB	OBD2 port	OBD2 port	OBD2 port	OBD2 port	OBD2 port	Installs through ECU(Engine Bay) or OBD2(Footwell)
Type of Tune	Piggyback (PnP)	Piggyback (PnP)	Flash	Flash	Flash	Flash	Flash	Piggyback = Hardware / Flash = Software
Compatible with AT/MT/IS/DCT/XDrive	✓	✓	✓	✓	✓	✓	✓	Compatible Drivetrains

Maps

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Diagnostic invisibility	✓	✓	AccessPORT	†† Handheld Programmer	-	-	-	Dealer detection of tune installed
Store/Preset Maps/Stages	9	5	100	1	1 (Future 4)	1 (Future 4)	1	Number of maps stored in unit memory
Map/Stage Selection	Progressive (100)	Progressive (100)	16 Stages/30 Maps		4	4		Defines the maximum boost level of any given map
Custom Adjustable Mapping	✓	✓	AccessTUNER Race	-	-	-	-	Adjust different parameters in a given map
E85 (Ethanol fuel) Maps	✓	✓	-	-	-	-	-	A dedicated map when using E85 Fuel
Naturally Aspirated / Non-Turbo Map	✓	✓	-	-	-	-	-	A dedicated map to disable the turbo's
Time it takes to switch map	1 - 2 seconds	1 - 2 seconds	2 min	-	-	-	-	Amount of time it takes to switch a map
Map Switching	On-the-fly	On-the-fly	AccessPORT	†† Handheld Programmer	(FLASHLOADER)†††	(FLASHLOADER)†††	-	How to change a map of the tune
User Software Interface	✓	✓	AP Manager	-	-	-	-	Windows software interface
Engine Tuning software			AccessTUNER Race	-	-	-	-	Windows - Create custom calibrations for vehicles equipped with virtually any performance modification.

Power

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Average Power Gains HP (Stock)	60-80	60-80	65-75	45-50	40-50	75-85	50-60	Average horse power gains over stock
Average Power Gains TQ (Stock)	65-80	65-80	80-90	55-65	50-60	80-90	60-70	Average torque power gains over stock
Dynojet numbers RWHP (dci, 91 octane)	353hp | 371tq (map 1)	356 (stage 1)	351hp | 361tq (stage 1)	339	329	368	332	Dynoed numbers with a dci & 91 octane Stock Baseline = 294 HP | 307 Torque
Dynojet numbers RWHP (Full mods, 91 octane)	366hp | 390tq (map 2)	390 (stage 3)	370hp | 417tq (stage 2)	352	350	389	359	Dynoed numbers with full mods & 91 octane Stock Baseline = 294 HP | 307 Torque
Dynojet numbers RWHP NITROUS (Full mods, race gas)	542 (map 6)	485hp | 520tq						Dynoed numbers with full mods & Nitrous Stock Baseline = 285 HP | 298 Torque
Dynojet #'s RWHP Upgraded Turbos (Full mods, Race gas)	511hp | 509tq	653hp | 523tq	553hp | 631tq					Dynoed numbers with upgraded turbo kit Stock Baseline = 291 HP | 303 Torque
Turbo boost psi peak	20	20	22	11.8	13.7	15.7	13.2	Peak psi each tune makes depending on mods
Number of reported cars in the 11s	14	11	1	0	0	1	0	Cars running ¼ mile in less than 12 seconds

Features

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Clear/Read tuner codes			AccessPORT	BT Tool **	BT Tool **	BT Tool **	BT Tool **	Reads & clear tuner codes from ECU
Compatible with BT Cable	(map 0)	(Valet Mode)	✓	✓	✓	✓	✓	Use the Bavarian Technic Diagnostic Tool for BMW
CPS Offsetting (Ignition Timing Control)	(Optional)	✓ / ignition advance	n/a	n/a	n/a	n/a	n/a	Phases shifting of the crank position sensor waveform to induce timing retard/advance
Diagnostic code read/clear ECU codes			AccessPORT	BT Tool **	BT Tool **	BT Tool **	BT Tool **	Read & Clear ECU codes
Full boost control	✓	✓	✓	✓	✓	✓	✓	A tune's absolute control over the boost control solenoid and boost set-point (boost target)
Full fuel control	✓	✓	✓	✓	✓	✓	✓	A tune's ability to achieve any given AFR under any given condition
IN-DASH Boost Gauge	✓	✓	✓					Display Boost/Information on your dash board
Instantaneous data display in graph	✓	✓	✓					Display instantaneous real-time data on laptop
Laptop connectivity, datalogging, & custom tuning	✓	✓	AccessPORT	Dealer	Dealer	Dealer	Dealer	Use of laptop to data-log and custom tuning
Launch Control			AccessTUNER Race	-	-	-	-	It allows boost to built up while brake torqueing for 2-3 seconds.
Methanol Integration/Compatible	Both	Both	Compatible	Compatible	Compatible	Compatible	Compatible	Use of Methanol with tune
Nitrous Integration/Compatible	Both	Both	Compatible	Compatible	Compatible	Compatible	Compatible	Use of Nitrous with tune
Overboost Protection and other safety features	✓	✓	✓	✓	✓	✓	✓	Protects turbo's against over-spooling
Progressive methanol mapping	✓	✓	-	-	-	-	-	The more meth flows, the more aggressive the map settings will become
2-Step Rev Limiter	✓	✓	-	-	-	-	-	You can floor the throttle pedal and engine speed will be limited to your 2-step RPM values.
Adjust Speed limiter	-	✓	AccessTUNER Race	✓	✓	✓	✓	Adjust your speed limiter of your preference
Removes speed limiter	-	✓		✓	✓	✓	✓	Removes the governor to increase top speed

Drivability

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Enhanced throttle reaction	✓	✓	✓	✓	✓	✓	✓	Improved response on throttle
Smooth power transitions	✓	✓	✓	✓	✓	✓	✓	Puts down more power to wheels
Higher rev limiter	-	✓	✓	✓	✓	✓	✓	Removes the 7000 RPM Rev Limiter
Optional Downpipes/FMIC/DCI/Exhaust	-	✓	✓	✓	✓	✓	✓	Installation of mods. Different maps/stages to support it

Engine Parameter Reads

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
O2 VOLTAGE	✓	✓	✓	✓	✓	✓	✓	Signal from the o2 sensor. In this case, the 0-1v signal from the rear (post cat) o2 sensors. Also called post cut feedback sensor.
AFR Monitor	✓	✓	✓	✓	✓	✓	✓	Air/Fuel ratio monitoring of either the rear o2 sensor voltage or the actual nominal lambda signal from the CAN network
AMBIENT PRESSURE	✓	✓	✓	✓	✓	✓	✓	Pressure at the TMAP sensor. Basically atmospheric pressure
APPLIED TPS	✓	✓	✓	✓	✓	✓	✓	Throttle position / Gas pedal sensor
BOOST	✓	✓	✓	✓	✓	✓	✓	Increase in pressure (psi)
DME BOOST ACTUAL	✓	✓	✓	✓	✓	✓	✓	The DME's value for boost. i.e., what it is seeing
DME BOOST TARGET	✓	✓	✓	✓	✓	✓	✓	The DME's value for boost target. i.e., what it wants to see
GEAR	✓	✓	✓	✓	✓	✓	✓	What transmission gear you're on
FUEL PRESSURE | LPFP/HPFP	✓	✓	✓	✓	✓	✓	✓	Flow of fuel
IAT	✓	✓	✓	✓	✓	✓	✓	Inlet air temp (Air intake temperature)
IGNITION ADVANCE	✓	✓	✓	✓	✓	✓	✓	Actual ignition advance angle
KNOCK STATUS	✓	✓	✓	✓	✓	✓	✓	Active Knock Monitoring
MANIFOLD PRESSURE	✓	✓	✓	✓	✓	✓	✓	The amount of pressure in the manifold (upstream of the throttle). This can be vacuum (when below ambient pressure) or boost (when above it)
O2 Simulator	✓	✓	AccessTUNER Race	-	-	-	-	A feature designed to adjust rear o2 sensor voltage so that the DME sees normal voltage swings that it would associate with a fully catted exhaust system
OIL TEMP SENSOR	✓	✓	✓	✓	✓	✓	✓	Monitors oil temperature
PEDAL POSITION	✓	✓	✓	✓	✓	✓	✓	Knows in what pedal position is traveling (0-100)
ROADSPEED (MPH)	✓	✓	✓	✓	✓	✓	✓	Monitors how fast the vehicle is traveling in MPH
RPM	✓	✓	✓	✓	✓	✓	✓	Engine Speed in revolutions per minute
System Voltage	✓	✓	✓	✓	✓	✓	✓	System voltage
THROTTLE BLADE POSITION	✓	✓	✓	✓	✓	✓	✓	The angle of the actual throttle blade. This is controlled by the DME
WASTEGATE DC	✓	✓	✓	✓	✓	✓	✓	The relative "open" time of the boost control solenoids. 100% is full open. 0% is full closed. 50% is pulsing open and closed in equal intervals
WATER TEMP	✓	✓	✓	✓	✓	✓	✓	Measures car water temperature

User Adjustable Parameters

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
AutoTuning	✓	✓	-	-	-	-	-	Tune automatically tunes to condition & modification of car
O2 Modifier	✓	✓	✓	-	-	-	-	Suppress catalytic conversion/inefficiency codes
Barometric Compensation	✓	✓	-	-	-	-	-	Boost targets are reduced as a function of barometric pressure
Bog Fix	✓	Built-in	✓	-	-	-	-	Option to hold more boost through high RPM shifts
Boost	✓	✓	✓	-	-	-	-	Maximum allowable boost on the current map
CanClear	✓		-	-	-	-	-	It prevents "tuner" codes from ever triggering dashboard lights
Cold Start	Built-in	Built-in	-	-	-	-	-	Tune increases boost after Oil temp increase to a operating temperature
Fuel	✓	Built-in	✓	-	-	-	-	Amount of fuel enrichment being added
Future Use	✓	✓	-	-	-	-	-	Setting for tuner to implement for future use
IAT Decay	✓	✓	-	-	-	-	-	Boost taper based on air intake temperature
Ign Correction	✓	✓	✓	-	-	-	-	The amount of positive or negative ignition timing/advance adjustment the tune/dme is inducing at any given time
Lag Fix	✓	Built-in	-	-	-	-	-	Controls the default wastegate position during cruise
Pedal Target	✓	✓	Stock / Linear	-	-	-	-	Adjusts how aggressive you want the throttle response
Speed Delimiter	-	✓	✓	✓	-	-	-	Removes factory top speed limit
Throttle Response/Gain	✓	✓	✓	-	-	-	-	Controls how aggressively the tune attempts to meet the boost
Torque	✓	✓	✓	-	-	-	-	Increase in low-end boost
Traction Assistance	✓	✓	-	-	-	-	-	Designed to reduce power off the line or in low gears
Wastegate Position	✓	✓	-	-	-	-	-	The position of the Wastegate actuator/flapper door

Company

	JB4	PROcede Rev3	COBB	Eurocharged (Stage 1)	GIAC Flash (Stage 1)	GIAC Flash (Stage 2)	Dinan Flash (Stage 2)	Definitions
Money back satisfaction guarantee	14 days	15 days	30 days	30 Days	30 days	30 days	30 days	Return policy
Manufacturer's Warranty			1 Year	60 Days	Varies by Dealer	Varies by Dealer	Factory Matching	Product Warranty
Manufacture's Websites	burgertuning.com	procedetuning.com	www.cobbtuning.com	www.eurocharged.com	www.giacusa.com	www.giacusa.com	www.dinancars.com	Website
Manufacture's software download	www.n54tech.com	www.procedetuning.com	www.cobbtuning.com					Download page
Free downloadable software/map updates	✓	✓	✓	-	-	-	-	Free software and map updates
Staff technical support number	(805) 660-6227	(866) 584-7531	(866) 922-3059	(281) 398-9700	(949) 724-0014	(949) 724-0014	(800) 341-5480	Phone number
Staff technical support email	terry@burgertuning.com	sales@vishnutuning.com	support@cobbtuning.com	sales@eurocharged.com	sales@giacusa.com	sales@giacusa.com	-	Email address

Do-it-Yourself

Procede v5 USB Cable Through Firewall into Glove box		JB4 USB Cable install for through the firewall		FMIC - Front mounted intercooler
Vishnu "PnP" Methanol kit installation ($795)		BMS Methanol kit installation ($599)		Catless DPS - Catless downpipes
FlexFuel Conversion Kit ($795) + PROcedeFlash DME Reflash ($100)	†† Handheld Programmer ($479.99)	††† GIAC Flashloader	AccessPORT	AccessTUNER Race	Alpina B3 Transmission Flash	DCI - Dual Cone Intake
* On the fly switching available via Laptop, hardwired switch, or P3 vent gauge				Oil Catch Can
** BAV TECH BMW SCAN TOOL ($287)				LSD - Limited slip differential
*** BMS Speed Limit Defeat removes speed limiter ($150)	BMS Downpipe Fix ($80)	BMS DCI ($95)	Bosch Replacement N54 Spark Plug ($11.50)	Index of E90/E92/E93 DIY
		BMS Spark Plug Socket Tool ($19)		

User Software Interface is windows compatible. Mac user will have to run:	Boot Camp 4 ($0)	Parallels Desktop 8 ($79.99)	Vmware Fusion 5 ($49.99)

Definitions (Maps section, right column)
Price of tune

JB4 Extra Features
1st and 2nd gear user adjustable boost 0-20psi - Torque reduction for improved traction.
Active bogfix - Allows manual transmissions cars to hold more boost between shifts than they could otherwise.
AutoTuning map 5 - Optimizes tuning automatically for your mods, octane, & conditions continuously as you drive.
Built in code reading/clearing - No need for 3rd party tool. Code scan be read in dash for quick access or through the laptop interface which includes the code description and suggested course of action. Also reads/delete hidden tuner detection codes.
CANbus Integration - By reading CAN data directly, the JB4 can monitor (real-time) things like boost target, boost error, manifold pressure, actual throttle position, oil temp, etc.
Canflap - The exhaust flapper makes the exhaust a little louder during cruise.
Custom Tuning map 6 - Allows custom tuning of boost, air/fuel curve, and CPS (if equipped) for those interested in custom tuning for their specific vehicle or needs.
DTC Off - DTC Off optional setting upon startup (It automatically selects the DTC option when starting the car)
Gauge hijacking - In dash user adjustable shift light, boost gauge, IAT gauge, timing gauge, & meth gauges.
Gauge Sweep - Gauge sweep with the tach and speedo upon startup of engine
MaxCool mode - MaxCool is an JB4 algorithm that improves engine cooling by increasing the speed of the electric water pump and engine cooling fan as a function of water temperature. When enabled you may hear the loud engine fan and water pump running
Non Turbo Map 8 - It forces a 3100 limp code disabling turbo's with 0% Wastegate duty cycle. The final version uses CAN commands to suppress the CEL display in dash, but they are not properly working yet, so this firmware simply allows the CEL/SES to display in dash while map 8 is selected.
Progressive methanol map - Integrates with all popular methanol kits for fully progressive control and safety.
Stealth mode - Programs gauges to only hijack when gas pedal is depressed more than 50%.
Steering wheel controls - Change maps, adjust gauge hijacking, and run diagnostics right through the steering wheel. Even when driving on the highway.
JB4 Instructions - Manual on how to control the JB4
JB4 Safety System
Over boost - User defined maximum boost ceiling regardless of maps or settings entered.
Waste gate DC - Detects boost leaks and other causes of excessive duty cycle.
Fuel pressure Failure - Detects failing fuel pumps or loss of fuel pressure.
Leanrun - Detects lean air/fuel ratios at wide open throttle.
Oil temp protection - Boost targets are reduced when the engine oil temperature is low. By approximately 160deg F, full boost potential is achieved. Above 280 deg F, boost begins to taper downwards abruptly for engine safety.
Interface:
Fully netbook compatible screen resolution.
Single file firmware/mapping for each update. No chance of mismatched firmware/maps and no need to upload new maps for different stages or transmissions.
User adjustable air intake temperature decay. Can double as software based methanol safety.
User adjustable air/fuel ratios.
User adjustable boost control parameters (throttle gain, pid gain, etc.)
User adjustable lagfix (Wastegate position during cruise)
User adjustable low end and high end boost.
User adjustable top end boost taper.
USB Interface

PROcede v5 Extra Features
1st and 2nd gear User Torque Adjustable (0-100%) - Same as above. But specific to gear selection. Reducing this setting in 1st gear can greatly improve traction in some conditions.
2-Step Rev Limiter - With this feature enabled, it is triggered it when the car is stationary AND with the clutch pedal depressed. When these two conditions are met, you can floor the throttle pedal and engine speed will be limited to your 2-step RPM values. Ignition will be cut when revs reach the RPM@switch off value and then resume when revs falls below the RPM@switch on value.
3bar MAP sensor input - For single turbo application
Active Dash Display Map - Keep track/display active map number.
Adjustable Learning Gain (Future Use 2 adjustable) - Not exactly new but some of you may not know what it does and why it is useful to adjust it. To learn what it does and how to set it for you particular car, please go The Basic v4 Custom Tuning Guide. Dialing this value in properly will make your car faster and more enjoyable. The Default value is 45.
Adjustable Audible Shift Alert/Light - Now you can set up a 2 stage shift light through the Procede's Command Center (no laptop required). Adjustable from 5000 to 8000rpm. The shift light function is delivered by your in-dash turn signal lights. And the audible beep comes through loud and clear through your stereo speakers. This feature is currently only available in non-Idrive cars.
Automatic Wastegate Compensation - Autotune the wastegates
AutoTuning - The Procede, not only offers timing control, it also has the ability to quantify how aggressive the tune, at any given condition/moment, by monitoring knock control activity through its CANbus integration. The Procede has the ability to Automatically adjust Fuel, Timing & Boost settings as a function of how the engine is running. This means that it will AUTOMATICALLY compensate for changes in conditions, changes in modifications, changes in fuel qualities, etc,.
Built-in Code Reading/Clearing - The Procede also gives you the ability to read and clear all DME diagnostic codes. This means that there is no need to purchase an expensive third party diagnostic tool! Clearing codes doesn't even require the use of a laptop. Very simple to use.
Built-in PWM Methanol Control I/O - The Procede Rev3 has a dedicated I/O for Methanol control using a Methanol kit
CANbus Integration - By reading CAN data directly, the PROcede can monitor (in real-time) things like boost target, boost error, manifold pressure, actual throttle position, etc.
CANclear Catalyst - The CANfeature that actively prevents can inefficiency codes from triggering when running catless exhaust systems. With this approach, there is no need to modify the rear o2 sensor signals-- which has unwanted side-effects.
CANclear Tuner - This means all the usual codes typically associated with running a tune (such as all 3 tuner codes, fuel pump plausibility and the "burn out" code triggered by doing a burn out at the drag strip Note: The CANclear feature automatically disables itself when any codes, other than the ones mentioned above, are triggered. This is so that any other potential problem does not go unnoticed.
Command Center - No laptop required to use it! With it, you can calibrate your in-dash gauges, select your shift-light RPM, reset several adaptions and much more. You can use your cruise control stalk to navigate through the selections.
Dedicated input for clutch switch
Dedicated input for external wideband sensor
Dual Bank Wideband AFR Monitoring - Reads & monitors ACTUAL Air/Fuel Ratio channels. The Procede actively monitors BOTH these channels every time the engine goes on boost. If AFR ever goes leaner than the desired threshold, it triggers a self-protective valet mode accompanied by a single SES light flash every 5 seconds indicating a Leanrun fault condition.
Flat-Foot Shift/No-Lift Shift (6MT) - With the ignition cut, you can upshift without ever needing to lift the throttle. With no throttle lift, the throttle blade will not close and boost will not be discharged through the bypass valves. Additionally, not lifting off the throttle will reduce the work you need to do and eliminate the possibility of a badly timed shift. It will also reduce shift times appreciably!
Flexfuel sensor capable - The heart of our Flex-Fuel module is a Siemens Fuel Composition/Temp sensor. This sensor intercepts into the factory fuel supply line using the supplied plug-and-play push-in fuel hoses. It is firmly secured to your inner fender using a supplied mount. The sensor's output signal feeds into the PROcede's Flex-Fuel signal input via plug-and-play harness. By monitoring this sensor's signal output, the PROcede is able to detect the precise amount of ethanol in the fuel. With this valuable information, the PROcede is able to alter fuel, ignition timing and boost settings accordingly to achieve ideal combustion and power. Also included in the package is a PROcedeFlash DME update that eliminates various fuel/ignition restrictions present in the factory DME code.
Global learning gain - The scale that dictates the range of active boost control learning. Adjustable depending on the relative stiffness of the Wastegate actuators.
In-Dash Boost/Information display - Display Boost/Information on your dash board.
Launch Control - It allows up to 8-9psi to be built while brake torqueing for 2-3 seconds. Without this feature, the engine bogs down after just a moment of doing this. With launch control, you can also define an ignition retard amount to be induced during this brake torque/boost build period that will reduce strain on the drivetrain/rear wheels so you are not fighting the car at the launch.
Lean Cruise - Built into the maps. It activates automatically during extended cruise conditions. It just targets a slightly leaner AFR while, bumping up ignition advance slightly to keep engine torque constant. You will see a mpg improvement.
Nitrous/staged Methanol CANtroller - The Procede's built-in nitrous control system which prevents nitrous from triggering until a certain set of engine conditions are met. Big benefits to safety & drivability.
Non Turbo Map 3 - Naturally Aspirated Mode	Remove those turbo's with a change of a map!
On-the-fly mapswitching - Toggle through the maps by simply double clicking the DTC button while driving.
PROcede Clear Codes - Ability to clear all OBD and BMW extended codes through the PROcede User Software. This means that it will erase all present and historical/shadow codes.
Progressive Mapping Strategy - There are only 2 maps. One for 6AT. And one for 6MT. Now, the map is progressively adjustable from 0 to 100% as defined in the User Torque entry. An entry of 0% will result in a very conservative 11psi peak boost. Whereas a setting of 100% will result in a 20psi peak boost.
Progressive Methanol Mapping - The Procede monitors the actual 0-5v analog methanol flow signal from your injection failsafe device (not the on/off 12v trigger signal). As such, it can constantly modify your tune settings according to actual meth flow. This means that there are no discrete map changes or abrupt transitions. By adjusting the tune settings as a function of actual methanol flow, there is no concern with methanol hardware failure.
Speed Delimiter - For cars with Sport packages, this maximum speed is an indicated 155mph. For non-Sport cars, it's 130mph. You can defeat these limiters by turning the speed delimiter feature ON in the user adjustable menu. Doing this has no effect on traction/stability control functionality. The default setting is OFF.
Switchable Barometric Pressure compensations - Can be enabled/disabled with the not-so-aptly named "Lagfix" user adjustable. A setting of "0" turns it OFF. A setting of "1" turns it ON. With it ON, those running at higher altitude will run less boost. The default setting is OFF.
Upshift Softening Adjustable (0-50) - In 6AT applications, this setting determines the amount of throttle closure that occurs during moderate to full boost up-shifting. The less throttle closure, the more mid-shift boost spike. The larger the value, more throttle blade closure and less mid-shift boost spike. The smaller the value, the less closure and more mid-shift boost spike. In 6MT applications, this setting doesn't do much.
Vishnu Command Center - There is no laptop required to use it! You can calibrate your in-dash gauges, select your shift-light RPM, reset several adaptions and much more. You can use your cruise control stalk to navigate through the selection
Wastegate Rattle Fix - If your car has wastegate rattle during idle, light cruise and decceleration conditions, try reducing this value. Reducing this value, will move the wastegates more open during these conditions.
Procede Instructions - Manual on how to control the Procede v5
PROcede Safety System
Excessive Wastegate DC - If boost DC is higher than the user definable limit for longer than the time delay, then a valet mode is triggered.
Fuel Pressure Failure - If a minimum fuel pressure voltage is not maintained for longer than the given delay, above 10psi of boost, then a valet is triggered.
Leanrun - If AFR is leaner than 13.5:1 at full boost, above 4500rpm for a period longer than the user definable delay, then a valet mode is triggered.
IAT based boost compensations - Boost targets are gradually reduced as intake air temperature starts to rise above 140deg F.
Oil temp based boost compensations - Boost targets are reduced when the engine oil temp is low. By approximately 170deg F, full boost potential is achieved. Above 260 deg F, boost begins to taper downwards abruptly for engine safety.
Overboost - If boost exceeds the user definable overboost limit for a period longer than the user definable amount of time (delay), then a valet mode is triggered.

To provide the user with info as to what fault triggered the valet mode, the SES will flash the following code every 5 seconds.

Procede Fault List
# of SES light flashes
1 – leanrun fault
2 – overboost fault
3 – wastegate overDC fault
4 – fuel pressure fault

COBB Tuning Extra Features

Change Maps - The AccessPORT can store up to 100 maps so you can be ready for any situation. Use the Change Map function to browse the maps stored on the AccessPORT and select the map most appropriate for what you want to do: Running down the drag strip to beat your last ET?   Change over to your high boost map.
Heading out on a long boring highway drive?   Perfect time for that fuel economy map.
Parking your car overnight in a risky area?   Load the Anti-Theft map to prevent start-up.
Handing your pride and joy over to a valet for dinner?   Switch to the Valet map to limit performance.

Data Logging - The AccessPORT functions as a hand-held data logging device. Plug the AccessPORT into the OBD-II port, select Data Logging from the menu and choose which monitors you wish to data log. Choose as few or as many monitors as you like. Hit enter and data logging begins. Once the data gathering is complete, hit the enter button again. The data is stored as a data log file within the AccessPORT. The AccessPORT can store up to 10 hours of data logging.

Gauges - Gauges allow you to view sensor data and calculated values in real-time right on the AccessPORT. Any monitor that can be data logged can also be viewed in real time using this feature. Live Data can function as an auxilliary gauge to supplement the stock gauge cluster, or it can be used to help in fine tuning custom calibrations.

Naturally Aspirated/Non-Turbo Map - A Valet map that not only "turns off" boost, but also turns down load and induces a rev limiter. A "non-turbo" map could also be made using AccessTUNER Race.

Performance Measurement - Every AccessPORT has built in Performance Monitors. These are great for showing the performance of your vehicle in the current state of tune with the modifications you have installed as well as helping to quantify performance gains when you make additional modifications. These are also great tools to help you improve your skills at the drag strip. It's like printing off your own time slip any time you want!
The following Performance Monitors are available:
- 60' Time: Elapsed time to 60' distance. Indicates how well your car is hooking up off the line.
- 330' Time: Elapsed time to 330' distance
- 0-60 mph: See where your car stacks up against the 0-60mph times published in the major car magazines.
- 1/8 Mile: Elapsed time and vehicle speed at 1/8 mile distance (660').
- 1000' Time: Elapsed time to 1000' distance. 1/4 Mile: Elapsed time and vehicle speed at 1/4 mile distance.
- Dynamometer: This monitor simulates a dynamometer. Based on car weight & accel rates, it estimates the hp of your engine. This is a great tool for evaluating performance gains after completing new modifications or installing a different performance map.

Rev Warning Light - The AccessPORT screen also functions as a Rev Warning Light. Simply enter the RPM you want the Rev Warning Light to activate at. The screen will brightly flash red and white to alert you when that RPM has been reached, while simultaneously showing any Live Data monitor!

Simple Installation - No tools are needed and no computer connection is required. Just plug the AccessPORT into the car's OBD-II port and follow the simple step-by-step on-screen instructions. In just a few minutes you will have a new performance map loaded on your ECU and be ready to experience the additional power and improved drivability of a proper tune tailored to your vehicle's modifications.
The AccessPORT comes preloaded with several performance maps for common modifications, and includes access to a free online database of additional Off-The-Shelf maps.

Trouble Codes - The AccessPORT allows you to read engine codes to help troubleshoot issues and potentially save you from an expensive trip to the dealership. A brief description of the trouble code is also provided, which is handy when you don't happen to have a shop manual in your pocket. The AccessPORT will read any trouble code reported by the ECU. In most cases this equates to hundreds of trouble codes and descriptions to help diagnose issues where ever you may be. Once the issue is resolved, the AccessPORT can be used to clear the codes to turn off the check engine light.

Uninstall - In the event that the car must be returned to the stock configuration, the AccessPORT can be completely removed and the ECU restored to its factory condition. Once the AccessPORT is uninstalled, it can be installed on any vehicle the AccessPORT part number supports. Since the AccessPORT can be uninstalled, combined with the ability to update the AccessPORT firmware via the internet, it retains a high resale value.

BMW AccessTUNER Race - AccessTUNER Race is engine tuning software created for enthusiast tuners. AccessTUNER Race allows the user to get into the heart of the OEM ECU and create custom calibrations for vehicles equipped with virtually any performance modification. The end result is a tune that is custom tailored to the vehicle's unique modifications, producing maximum power gains while maintaining the drive-ability and sophistication inherent in the OEM ECU.

Functions

INTERACTIVE - The vibrant full color screen and an intuitive interface make communicating with your ECU a breeze, without the hassles of a laptop. Stay connected and informed.   Set as a Rev Warning Light
• Use as a shift light.
• Set desired RPM to trigger.
On-Screen Sensor and Data Monitoring
• Use as an auxiliary gauge.
• Select from many channels to view live data.
On-Screen Performance Measurement
• 0-60mph timer.
• 1/4 mile electronic time slip (60' time, 330' time, 1/8 mile ET and trap, 1000' time & 1/4 mile ET and trap).
• Simulated dynamometer measures modification gains.
On-Screen Diagnostic Trouble Code Tool
• Read ECU trouble codes and trouble code definitions.
• Reset trouble codes to turn-off check engine light.
On-Screen Map Library
• Viewing Read details of the currently installed map.
• Browse and read details for every map loaded on the AccessPORT.
• Select and load any of up to 20 maps stored on the AccessPORT.
On-Screen Fuel Economy Gauge
• Instant Fuel Economy lets you see how your driving inputs affect fuel mileage.
• Average Fuel Economy shows fuel mileage for current trip.
• Accumulated Average Fuel Economy shows fuel mileage spanning multiple trips.
• Reset Average and Accumulated Average Fuel Economy to start over.
Initiate Data Logging
• Log data from any of many sensor and calculated data monitors.
• Start and stop data logging sessions with the push of a button.
• Configure sampling rate for each data monitor.
• Store up to 10 data logs with up to 10 hours of data recording.   On-Screen ECU Settings (for some applications)
• Launch control adjustment.

Convenience - The AccessPORT is ready to go when you are. Right out of the box, simply plug it into your car's OBD-II port and install. No tools or special skills are necessary. It's small size makes it very portable, easily fitting in a shirt or pants pocket. And the full color screen and simple intuitive interface gives you the power to control your ECU right in the palm of your hand. In multiple languages.
Take up to 20 map calibrations with you on the run. All of your maps can come along for the ride. Easily experiment with different launch control settings without the hassle of a computer. Keep a high boost map, aggressive timing map and a race gas map with you and load when needed.
The AccessPORT comes with many maps pre-installed. These maps cover many of the most common modifications performed by fellow enthusiasts. There are also maps included to protect your vehicle from abuse. Load the Anti-Theft map to prevent your car from being started when you are away. Or load the Valet map which limits revs and boost when you are out on the town and your car is in the hands of someone else.
When the time comes to return your car back to its original stock condition, the AccessPORT can be completely uninstalled in just a matter of minutes. It just takes a push of a button and no tools or computer are needed.

Upgradeable - The AccessPORT is designed to grow with the ever changing modifications the most demanding tuning enthusiasts aspire to. Likewise, the AccessPORT itself must change and grow to stay on the cutting edge of tuning capability.
—The AccessPORT is fully upgradeable via an internet connection. The included AccessPORT Updater software automatically checks to make sure that the firmware on your AccessPORT is the most up to date version available. This ensures your AccessPORT has the latest and greatest functionality available for your vehicle model.
—Off-The-Shelf Maps available in the AccessPORT Map Database are often upgraded to take advantage of the latest table discovery or new features deployed on the AccessPORT. Updated maps are publicly announced and are available for free download. The AccessPORT Manager allows easy transfer of maps and data logs between the AccessPORT and PC.
—The AccessTUNER Race and AccessTUNER Pro software also receive updates to provide additional access to tables and control of new features as ongoing ECU discovery opens up new functionality. Software upgrades are announced and download links are provided to AccessTUNER software users.

Support - Purchasing the AccessPORT gives you access to COBB Tuning's outstanding customer support. Our Customer Service and Technical Support staff is standing by to help you with any issues that may arise. Subject matter experts are only a telephone call 866-922-3059 or email tech@cobbtuning.com.
COBB Tuning also hosts forums specifically for AccessPORT users. The forums are divided into vehicle make and model, and are a great place to share experiences with other enthusiasts. These forums are monitored by COBB Tuning engineers and subject matter experts who will provide guidance and support when necessary.
COBB Tuning also has an extensive network of independant professional engine tuners, called the PRO TUNER network. These tuning experts use AccessTUNER Pro software to custom tune your AccessPORT should you want to extract the maximum power gains available. These tuners have the latest versions of the AccessTUNER software and are directly in contact with COBB Tuning Calibration Specialist to meet the most exacting needs of the tuning enthusiast.

Uninstall - In the event that the car must be returned to the stock configuration, the AccessPORT can be completely removed and the ECU restored to its factory condition. Once the AccessPORT is uninstalled, it can be installed on any vehicle the AccessPORT part number supports. Since the AccessPORT can be uninstalled, combined with the ability to update the AccessPORT firmware via the internet, it retains a high resale value.

COBB Tuning Video Tutorials & User Guide

COBB Instructions - Manual on how to control the AccessPORT

AccessPORT Manager	Change Maps	Data Logging	Live Data	Performance	Trouble Codes	Installation	Uninstall	Update Firmware	BMW Misfire Diagnosis and Repair

* Everything that is underlined, it's a link referring to that matter