

# 2019 Golden Gate Chapter BMW CCA Autocross Classification System FAQ

## First Steps

Participation in a GGC autocross competition event requires some pre-work on your part. For those of you going thru this for the very first time, here's a brief overview of the process:

- 1) Create and validate an account at [bmwautocross.com](http://bmwautocross.com)
- 2) Go thru the classification process, which includes selecting a unique driver number and selecting details about your car.
- 3) Visit [motorsportreg.com](http://motorsportreg.com) (MSR) to sign up for an event. You'll need your [bmwautocross.com](http://bmwautocross.com) username to complete your registration at MSR.

## Why We Classify

Everyone competing in the GGC autocross program must choose a unique driver number and classify your car before your first competition event with us. By going through this process, your car will be assigned a number of points which will determine the class you compete in.

You may classify more than one vehicle, but only one vehicle may be active. If you've classified multiple vehicles, please make sure the vehicle you intend to drive in your next event is the highlighted/selected vehicle before registration closes for that event.

## Honor System

You represent that the data you provide during this process is true to the best of your knowledge. Should your classification data be challenged by another competitor, your vehicle may be subject to an in-depth inspection and/or documented proof, such as weight or horsepower.

## Classification Challenge Process

Should you doubt the classification accuracy of a competitor, you may challenge that classification. Your classification may also be challenged, so be prepared.

The rules are as follows:

- Each competitor may challenge a maximum of two classifications per season.
- The challenger must inform an autocross team member of your desire to challenge another competitor within 30 minutes after the driver's run group completes and before 5pm on the day of the event. If the run group completes after 5pm, the challenge can be made at the next event before the first run group starts. Challenge requests received at any other time will not be considered.
- A challenge meeting will be held with at least two autocross team members, the challenger, and the challenged. All will compare the classification system data against the vehicle in person and a final decision will be made on site.
- If it is determined that the vehicle in question is classed incorrectly (A, AA, AAA, B, C), and the points difference results in a class change, the offending competitor will be re-classed as non-compete for the current event and all preceding events for the season.
- If a Gonzo class competitor is challenged and loses, the offending competitor will be re-classed as non-compete for the current event and all preceding events for the season.
- If the challenge occurs at Top Driver Shootout, the offending driver will be immediately disqualified from the event.
- The three-strikes rule applies to all competitors: Starting with the 2019 season, should you be challenged and lose three times you will not be allowed to compete in the GGC Autocross Series for eternity. You may still attend, but only as a non-compete driver.
- The GGC Autocross Team decisions are final— no appeal will be allowed.

## **How to Classify**

The system is setup for quick and easy classification of BMW and MINI vehicles.

If you don't already have an account at [bmwautocross.com](http://bmwautocross.com), visit the site to create one by clicking on the Register link. Be certain to provide your e-mail address, and your first and last name.

If you already have an account, visit [bmwautocross.com](http://bmwautocross.com) to get started.

## **Select Driver Number**

Each driver must have a unique driver number. Our system is the keeper of these numbers. Choose your number from the drop-down list and proceed to the next step.

## **Classify**

The system has two paths to create your classification data:

### **Classify Your Own Car...**

To classify your own car, click on the button of the same name to get started. Follow the step-by-step that matches your situation below.

### **Copy Someone Else's Classification...**

You're sharing a car, so you'll need to copy the owner's classification data. Important to note, the other person MUST have their car classified before you can copy the data to your account, so work with them to make sure this is done before you start.

Click this button, then choose the car owner from the drop-down list and wait while the save is completed. The vehicle will show up in your list of classified cars above when done.

## **Step By Step – Non BMW or MINI**

If you're driving a non BMW or MINI, the process is very simple: Enter the Year, Make and Model of your car in the entry field as indicated, then click the submit button to save. Do not include any commas. Your car will now show up on your account.

## **Step By Step – BMW or MINI**

If you're driving a BMW or MINI, the process is more involved. Follow the steps as outlined here. You will be required to know some technical details of your vehicle, especially if you've made any modifications. For stock vehicles, the steps will mostly include verification of information before saving the data.

## **Select Year, Make and Model**

If you are classifying a BMW or MINI, select the year of your car. Once selected the page will populate another drop-down list where you'll select the model designation for your vehicle. If any sub-models exist, be sure to select the appropriate item.

NOTE: If your vehicle IS NOT available, please STOP and write us at [autocross@ggcbmwcca.org](mailto:autocross@ggcbmwcca.org) to ask for help. We strive to keep our system current, but sometimes we do not have data for some models.

## **Select Wheel/Tire Package**

Depending on the model and trim level of your car, you may have optional factory installed wheels and tires. Choose the appropriate entry from the drop-down list.

## **Optional Equipment and Modifications**

Your vehicle may have additional optional equipment and modifications. This page is where you will make those selections.

## Tire selection

Select the type of tires you will run on your car for autocross events. Note that race compound tires (also known as r-comps) are defined as any tire having a tread wear rating of 110 or less. If you don't know this value, visit [TireRack.com](http://TireRack.com) and look it up.

The system will pre-select the type of tire it thinks your car came with from the factory. If the default value is not correct or you have installed different tires, click on the type of tire you have installed. Don't know what you have?

- All-season tires come standard on most non-M cars without the sports or performance package. They'll clearly say 'M+S' on the sidewall
- Summer tires come standard on most M cars and cars with the sports or performance package
- Examples of cross-tread R comp tires: Michelin Pilot Sport Cup (not Pilot Sport or Pilot Sport PS2), Kumho Victoracer V700/Ecsta V700, Toyo RA-1
- Examples of a grooved R comp tires: Kumho V710, Hoosier A6/R6, Hoosier AxS0x/SxSOx (A3S04, etc) line
- Examples of non-DOT R comp tires: Hoosier R35/R45/R55/R60

## Transmission selection

The system will choose a default value based on your previous selections. If the transmission in your car is different, select the type of transmission your car has.

- Manual, SMG, or DCT: These are all manual transmissions. SMG and DCT have paddles in place of the third pedal for shifting gears. Your shift lever does not have "PRND..." indicators.
- Steptronic or CVT: These are automatic transmissions with a sport or manual mode. Changing gears may be done with the gear lever or steering wheel mounted paddles, if equipped. Your shift lever does have "PRND..." indicators.
- Fully automatic (no steptronic): A fully automatic transmission will have the traditional PRND shifter with no mode to manually change gears.

## Shocks selection

Also known as dampers, shocks play an integral part in the handling of your car. Note that a stock BMW suspension means your car has BMW shocks and/or BMW springs. If you have a sport/performance pkg, M or JCW car, the system will select your default suspension type for you.

If you've installed non-standard parts, choose the item that describes your shocks. **NOTE:** If you have a mix of equipment, like single-adjustable up front and double-adjustable in the rear, you must take the higher point modification – double-adjustable.

- BMW base shocks: original equipment, base-model shocks
- BMW sport or performance package shocks: your car is equipped with the sport or performance package dampers
- BMW M suspension shocks: you have an M car, or an M car with competition package, or you've installed an M suspension on a non-M car.
- Non-Adjustable or Single-Adjustable shocks: aftermarket dampers with or without adjustments.
- Double-adjustable or Triple-adjustable shocks: your wallet will be significantly lighter if you installed one of these options as they are very expensive, so you should know what you have.

## Springs selection

Springs play an integral part in the handling of your car. Note that a stock BMW suspension means your car has BMW shocks and/or BMW springs. If you have a sport/performance package, M or JCW car, the system will select your default suspension type for you.

If you've installed non-standard parts, choose the item that best describes your springs. **NOTE:** If you have a mix of equipment, like adjustable perches up front and non-adjustable perches in the rear, you must take the

higher point modification – springs with adjustable perches.

- BMW base springs: original equipment, base-model springs
- BMW sport or performance package shocks: your car is equipped with the sport or performance package springs
- BMW M suspension springs: you have an M car, or an M car with competition package, or you've installed an M suspension on a non-M car.
- Springs without adjustable perches: you have aftermarket springs that are not height adjustable
- Springs with adjustable perches: you have aftermarket springs that are height adjustable
- Springs along with major suspension changes: you have installed aftermarket springs and have made additional geometry changes to your suspension that may include relocation of mounting points, custom control arms, or other extensive modifications.

### **Differential gearing modifications**

If you've installed a different ratio rear differential than the standard for your model of car, or modified your differential with a new ratio gear set, you must choose this item.

### **Drivetrain modifications**

If you've installed a lightweight flywheel, choose this item.

### **Weight reduction modifications**

Saving weight can significantly increase the handling, braking, and acceleration capabilities of your car.

The base points for your selected vehicle is calculated using a weight number we obtained from BMW/MINI published specifications for your selected vehicle which is often based on common equipment levels for a US market car. It is impossible for us to know the exact weight of your specific car, so we have built in some base assumptions here.

If you have removed any factory parts, and/or replaced a factory part, include in your calculation all that apply. Add up the total weight savings for the removed items and select the appropriate range from the list of options.

#### Examples of what NOT to classify:

- Removed fog lights and replaced with delete panels
- Installed lighter wheels and/or tires
- Fuel (or lack thereof)
- Removed floor mats and/or trunk mats
- Removed spare tire, tool kit, M Mobility kit
- Weight lost from removing the rear seat to install a roll bar does not count. We do not want to penalize for safety gear.

#### Examples of what TO classify:

- Removed metal from door shells, rear deck, or any other area of your car
- Removed Sunroof/Moonroof and replaced with a lighter panel
- Removed and did not replace exhaust system or body panels
- Removed and did not replace suspension components (like sway bars)
- Removed glass and/or replaced with Lexan or other lightweight materials
- Replaced stock seats with aftermarket seats, and/or removed rear seat
- Removed interior panels, headliner, dash, sound deadening, carpet, etc
- Replaced stock body panels with lightweight versions
- Removed air conditioning components
- Removed air bags

The most accurate method for determining weight savings is to weigh the vehicle BEFORE you make any changes, and then weigh it AFTER your changes are completed. Drivers installing suspensions with adjustable perches will have a corner weighting done during the alignment process, which will tell you the exact weight of

your vehicle. To calculate the weight loss, subtract the after weight from the before weight to get this number, then select it here.

### **Front camber modifications**

Increasing negative camber is a significant handling improvement. Note that this option applies to parts ADDED to or REMOVED from the car that increase negative camber (camber plates, shimming the struts, swap strut hats, removing alignment pins from strut hats, etc) and does not include the additional camber gained from alignments or lowering of the car only. If the alignment pins were removed to keep the car within factory spec, the autocross team will be happy to discuss the situation and review the alignment spec sheets.

- If you've increased front negative camber on your e30 3-series and prior, or your e28 5-series or prior, select this option.
- If you've increased front negative camber on any other vehicle, select this option.

### **Rear camber modifications**

If you've increased rear camber on your e30 3-series and prior, or your e28 5-series or prior, select this option.

### **Sway bar modifications**

If you've changed the front sway bar or you have the BMW active rollbar option, select the front sway bar item. The BMW active rollbar option is treated the same as installing aftermarket sway bars.

If you've changed the rear sway bar and do not have adjustable rear spring perches, select the rear sway bar item. If you have adjustable spring perches, do not select this item.

If you've removed one or both of your sway bars be certain to include their weight in the Weight Reduction Modifications section above.

### **Front wheel change in width**

If you've installed wider front wheels than your car had from the factory, select the item that matches the increased width measurement.

### **Rear wheel change in width**

If you've installed wider rear wheels than your car had from the factory, select the item that matches the increased width measurement.

### **Limited Slip Differential**

The system will select this item automatically if we believe your car had one from the factory. If your car did not come from the factory with a limited slip rear differential (LSD) and you installed one, or we made a mistake, select this option.

### **Engine modifications**

We provide two methods for calculating points for your engine modifications. You may choose your modifications from our list and accept our points values, OR you can enter the rear wheel horsepower of your vehicle as measured on a dynamometer.

Please choose your method carefully as once you choose a calculation method, you will have to create a new classification to choose a different method.

### **Choose from our list**

- Big bore throttle body: select if you've installed one
- Underdrive crank pulley: select if you've installed one
- Removed cats: select if you've removed your catalytic converters
- Manifold: select if you've replaced your intake manifold
- Headers: select if you've installed aftermarket headers
- Exhaust: select if you've replaced your muffler

- Injectors: select if you've replaced your injectors
- Air Intake: select if you've replaced your stock air intake
- Underdrive pullies: select if you've installed accessory underdrive pullies
- Distributor: select if your car does not have electronic ignition and you've replaced your distributor
- Valves/Head work: select if you've modified your valves or had head work (like port/polish)
- Software (OBD2 naturally aspirated): select if you've installed different engine management software on your non-turbo/non-super charged engine
- Chip (OBD1 naturally aspirated): same as above for cars with OBD1
- Carbs: select if you've modified or replaced your carburetor(s)
- Fuel injection in place of carbs: select if you're installed fuel injection on a car that was carbureted
- Cams: select if you've replaced your original cams with a different grind
- Supercharger pulley reduction: select if you have a supercharger and installed a smaller pulley
- Piston/bore or stroke or compression increase: select if you've bored, stroked, or otherwise increased compression of your engine.
- Chip/Software (turbo engine): select if you've installed different software or a piggy-back tuner on your turbo car.
- Supercharger (not twinscrew): select if you've installed a non-twinscrew supercharger
- Turbo or twin-screw supercharger: Select if you've installed a turbo or twin-screw supercharger on a car that did not include this feature from the factory

### **Wheel Horsepower Number**

If you've had your car dyno'd and know your wheel horsepower, select this option and enter the supporting data. Note that you will not have points deducted if your dyno results or horsepower claim is lower than the factory claimed rear wheel horsepower for your car.

NOTE: Proof of your dyno number is not required at time of entry, but keep in mind if your car's classification is challenged by another competitor, you will be required to show proof.

### **No Engine Mods**

If you have not made any engine mods, click this button.

### **Run in Higher or Non-Compete Class**

You may decide that you want to compete against drivers in a higher class, select that class from the drop-down list provided. If you choose to run in the Gonzo class, your base points will be increased to 80 which is the minimum number of points for that class. Gonzo times are indexed for all events. For regular season events, 80 points will be used if you run in this higher group. For Top Driver Shootout, class does not matter - your actual points will be used in this calculation.

You may also decide that you do not want to compete for a class trophy during the regular season. If this is your intention, select (N – Non-Compete) from the dropdown list.

### **Save Classification**

Click the "Save this classification to my user profile" button and you will be returned to your home page.

## Appendix A – Manual Car Classification Steps

### Tire Selection

Note that grooved R-comps are defined as having tread wear less than 60. Don't know which?

- All-season tires come standard on most non-M cars without the sports or performance package. They'll clearly say 'M+S' on the sidewall
- Summer tires come standard on most M cars and cars with the sports or performance package
- Examples of cross-tread R comp tires: Michelin Pilot Sport Cup (not Pilot Sport or Pilot Sport PS2), Kumho Victoracer V700/Ecsta V700, Toyo RA-1
- Examples of a grooved R comp tires: Kumho V710, Hoosier A6/R6, Hoosier AxS0x/SxSOx (A3S04, etc) line
- Examples of non-DOT R comp tires: Hoosier R35/R45/R55/R60

non-DOT legal	-> +22
grooved R-comps	-> +10
summer tires, cross-tread R-comps	-> 0
all-season (M+S)	-> -10

### Transmission Selection

manual, or SMG, CVT	-> 0
Steptronic or CVT	-> -1
fully automatic (no steptronic)	-> -3

### Shock Selection

Note that a stock BMW suspension means having BMW shocks and/or BMW springs. **If you have a sport pkg, M or JCW car, we have selected your default suspension type**

BMW base shocks	-> 0
BMW sport or performance package shocks	-> +1
BMW M suspension (includes competition package shocks)	-> +2
Non-adjustable or single-adjustable aftermarket shocks	-> +3
Double-adjustable or triple-adjustable aftermarket shocks	-> +5

### Spring Selection

Note that a stock BMW suspension means having BMW shocks and/or BMW springs. **If you have a sport pkg, M or JCW car, we have selected your default suspension type**

BMW base springs	-> 0
BMW sport or performance package springs	-> +1
BMW M suspension (includes competition package) springs	-> +2
Springs (without adjustable perches)	-> +4
Springs (with adjustable perches)	-> +9
Springs along with major suspension changes (relocate mounting points, custom control arms, etc)	-> +20

## Appendix A – Manual Car Classification Steps

### Drivetrain modifications

drivetrain gear changes (differential or transmission change) -> +2  
lightweight flywheel -> +1

### Weight reduction modifications

Select the option below that best reflects the amount of weight you have removed from your vehicle. Some examples of weight reduction are aftermarket seats, rear seat removal, stripping of interior panels, Lightweight body panels, AC removal, airbag removal, sound deadening, and carpet removal.

(Note: Items not attached to the vehicle (floor mats, spare tires, etc) do not need to be classified as weight loss).

(Note: If you have installed a rollbar or cage make sure you consider the amount of weight it adds to your vehicle.)

1 - 50 lbs -> +1  
51 - 100 lbs -> +2  
101 - 150 lbs -> +3  
151 - 200 lbs -> +4  
201 - 250 lbs -> +5  
251 - 300 lbs -> +6  
301 - 350 lbs -> +7  
351 - 400 lbs -> +8  
401 - 450 lbs -> +9  
451 - 500 lbs -> +10  
500+ lbs -> +11

### Front camber modifications

Note that this applies to things ADDED or REMOVED from the car that increase camber (camber plates, shimming the struts, swap strut hats, removing alignment pins from strut hats, etc) and does not include the additional camber gained from alignments or lowering the car.

increased front camber (3 series e30 and prior, 5 series e28 and prior) -> +4  
increased front camber (all other) -> +5

### Rear camber modifications

increased rear camber (3 series e30 and prior, 5 series e28 and prior) -> +1

### Sway bar modifications

BMW active rollbars option is treated the same as having aftermarket sway bars.

Front sway bar -> +2  
Rear sway bar (without adjustable perch springs) -> +2



## Appendix A – Manual Car Classification Steps

### Wheel Width Change

Wider front wheels -> +1 per 0.5" increase

Wider rear wheels -> +1 per 0.5" increase

### Limited Slip Differential

if your car does not come standard with a LSD, look up the LSD points for your car. The LSD point values for each car are found in the Base Points document.

### Engine

Additional classification points for engine mods are based on % increase in engine horsepower those mods provide.

You can determine the % increase in 3 different ways:

- you have a dyno chart for your car
- you have manufacturer's published numbers for your mod
- you can use our assigned % increase in hp for your mod

#### Step 1

##### You have a dyno chart

Take the max hp number on the chart. That is the hp at the drive wheel(s). To convert that to bhp, divide by 0.85. That is the bhp of your car. Subtract the stock hp for your car from that and then divide that number by the stock hp. That will give you the % increase in hp for your mods. Here it is in formula form:

$$\% \text{ increase in hp} = \frac{((\text{max hp on the dyno}) / 0.85) - \text{stock hp}}{\text{stock hp}}$$

Proceed to Step 2 to lookup your classification points if all your engine mods are included in the dyno.

##### You have manufacturer's published numbers

Take the manufacturer's published number and divide by the stock hp.

$$\% \text{ increase in hp} = \frac{\text{Manufacturer's published hp increase in hp}}{\text{stock hp}}$$

You can repeat this calc for every engine mod you have published numbers for. Total the percents together. If you have the % increase for all your mods, then proceed to Step 2.

## Appendix A – Manual Car Classification Steps

You do not have a dyno or manufacturer's published numbers, find each mod you have in the chart below and add together the % increases.

Engine Mod	% increase in hp
Big bore throttle body	1
Exhaust	2
Headers	2
Manifold	2
Removed cats	2
Underdrive crank pulley	2
Injectors	3
Air intake	4
Underdrive pulleys	5
Valves/headwork	6
Distributor	6
Software (ODB2) (non-turbo engine)	7
Chip (ODB1) (non-turbo engine)	9
Carbs	10
Fuel Injection in place of carbs	10
Cams	11
Supercharger pulley reduction	15
Piston/bore or stroke or comp increase	20
Chip/software (turbo engine)	30
Supercharger (not twinscrew)	40
Turbo or twin-screw supercharger	50

Add together the numbers and proceed to Step 2.

## Appendix A – Manual Car Classification Steps

### Step 2

Lookup the engine level value for your car. Look across on that row to find the % increase in hp you have calculated for your car to determine the additional classification points for your car. Note that there are different tables. One for cars with LSD and one for cars without LSD.

#### With LSD

Engine Level	Classification Points																												
	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+20	+21	+22	+23	+24	+25	+26	+27		
0	1-2	3-5	6-9	10-12	13-15	16-19	20-22	23-25	26-29	30-33	34-37	38-41	42-46	47-51	52-56	57-63	64-70	71-79	80-88	89-99	100-111	112-123	124-138	139-180	181-324	325-523	524+		
1	1-2	3-5	6-9	10-12	13-15	16-19	20-22	23-25	26-29	30-33	34-38	39-43	44-49	50-56	57-64	65-72	73-82	83-92	93-105	106-121	122-203	204-350	351-493	494-609	610+				
2	1-2	3-5	6-9	10-12	13-15	16-19	20-22	23-27	28-31	32-36	37-42	43-49	50-56	57-65	66-74	75-85	86-98	99-115	116-197	198-197	198-380	381-550	551+						
3	1-2	3-5	6-9	10-12	13-15	16-19	20-23	24-28	29-33	34-40	41-47	48-55	56-64	65-74	75-86	87-114	115-138	139-382	383-523	524+									
4	1-2	3-5	6-9	10-12	13-16	17-20	21-25	26-31	32-38	39-45	46-54	55-64	65-75	76-89	90-123	124-285	286-493	494+											
5	1-2	3-5	6-9	10-13	14-18	19-23	24-30	31-37	38-46	47-55	56-66	67-81	82-211	212-265	266-408	409+													
6	1-2	3-6	7-10	11-15	16-21	22-27	28-34	35-43	44-52	53-63	64-86	87-169	170-335	336-427	428+														
7	1-3	4-7	8-12	13-19	20-27	28-41	42-49	50-58	59-69	70-131	132-272	273-400	401+																
8	1-4	5-11	12-25	26-37	38-58	59-89	90-129	130-176	177-236	237-318	319+																		
9	1-7	8-19	20-67	68-147	148-186	187-219	220-264	265-290	291+																				

#### Without LSD

Engine Level	Classification Points																	
	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18
0	1-3	4-8	9-13	14-20	21-27	28-35	36-44	45-53	54-63	64-74	75-85	86-98	99-111	112-127	128-170	171-288	289-479	480+
1	1-4	5-10	11-16	17-23	24-32	33-41	42-51	52-61	62-73	74-85	86-98	99-112	113-167	168-279	280-517	518-627	628+	
2	1-5	6-11	12-18	19-26	27-35	36-45	46-56	57-65	66-78	79-91	92-107	108-163	164-356	357-569	570+			
3	1-6	7-12	13-21	22-29	30-38	39-48	49-56	57-69	70-81	82-96	97-134	135-435	436-558	559+				
4	1-6	7-13	14-22	23-30	31-40	41-50	51-58	59-72	73-86	87-125	126-394	395-520	521+					
5	1-6	7-14	15-22	23-30	31-42	43-51	52-60	61-76	77-100	101-286	287-490	491+						
6	1-6	7-14	15-23	24-32	33-43	44-52	53-65	66-80	81-177	178-400	401-439	440+						
7	1-6	7-14	15-24	25-34	35-44	45-54	55-70	71-110	111-342	343-416	417+							
8	1-7	8-21	22-40	41-67	68-111	112-134	135-190	191-268	269-337	338+								
9	1-8	9-31	32-93	94-157	158-203	204-241	242-281	282-317	318+									

## Appendix A – Manual Car Classification Steps

### GGC BMW Classes

Note that you may always choose to run in higher class than your car class

<b>Class</b>	<b>Point Range</b>
C	0-39
B	40-49
A	50-59
AA	60-69
AAA	70-79
Gonzo*	80+

\*Gonzo is an adjusted class. The times in Gonzo will be adjusted according the TDS formula. The top time in Gonzo will be the best adjusted time.

Drivers choosing to run in Gonzo that have a car classed in a lower class will automatically have 80 points assigned to their car. Fastest Time of Day (FTD) will remain a raw time.

TDS Formula:

$$\text{adjustedTime} = ((60/59.901) ^{\text{points}}) * \text{realTime} * 0.85$$

## Appendix B – Base Points (Up to 2015 Models)

Model	Year Start	Year To	Chassis	Base Points	LSD Points	Engine Level	Weight	BHP	BHP at RPM	Torque	Torque at RPM	Final Drive	LSD Standard	Package Type	Rear Wheel	Front Wheel
1600-2	1966	1971	Type 114	30	0	0	2072	85	5700	91	3000	4.11	N	B	4.5	4.5
2002 Alpina	1967	1967	Type 114	53	7	7	2135	160	6900	135	5250	3.89	Y	B	5.5	5.5
1600TI	1967	1968	Type 114	31	2	2	2116	105	6000	97	4500	3.9	N	B	4.5	4.5
2002	1968	1973	Type 114	31	3	3	2210	106	5500	116	3500	3.64	N	B	4.5	4.5
1602	1971	1975	Type 114	28	0	0	2161	85	5700	91	3000	4.11	N	B	4.5	4.5
1500 4 Dr	1962	1964	Type 118	22	0	0	2370	90	5900	87	3200	4.38	N	B	4	4
1800 4 Dr	1963	1971	Type 118	23	0	0	2403	90	5250	106	3000	4.11	N	B	4.5	4.5
1600 4 Dr	1964	1966	Type 118	20	0	0	2359	83	5800	91	3000	4.11	N	B	4	4
1800TI 4 Dr	1964	1966	Type 118	32	4	4	2400	124	5800	109	4000	4.11	N	B	5	5
2000cA	1965	1967	Type 121	27	1	1	2646	113	5800	116	3600	3.9	N	B	5	5
2000cs	1965	1970	Type 121	28	2	2	2646	121	5800	123	3600	3.9	N	B	5	5
2000TI 4 Dr	1966	1970	Type 121	34	4	4	2535	135	5500	123	3600	3.9	N	B	5.5	5.5
2000tii	1969	1972	Type 121	31	1	1	2579	130	5800	130	4500	3.9	N	B	5.5	5.5
2800	1968	1971	E3	29	5	5	2998	170	6000	174	3700	3.45	N	B	6	6
2500	1968	1976	E3	30	6	6	3005	170	6000	155	3700	3.64	N	B	6	6
Bavaria	1971	1972	E3	29	5	5	2954	170	6000	174	3700	3.45	N	B	6	6
Bavaria	1973	1974	E3	26	6	6	3235	180	5800	185	3500	3.64	N	B	6	6
3.0s	1973	1976	E3	22	4	4	3320	170	5800	185	3500	3.45	N	B	6	6
3.0si	1975	1976	E3	17	2	2	3420	176	5500	185	4500	3.45	N	B	6	6
Bavaria Euro 2.8L	1976	1976	E3	26	2	2	3420	170	5800	174	3500	3.45	N	B	6	6
2002tii	1971	1973	E6	33	3	3	2310	130	5500	130	4500	3.64	N	B	5	5
2002 Touring	1971	1974	E6	32	2	2	2271	106	5500	116	3500	3.64	N	B	4.5	4.5
2002tii	1974	1974	E6	31	3	3	2420	125	5500	127	4000	3.64	N	B	5	5
2002	1974	1976	E6	28	2	2	2370	106	5500	116	3500	3.64	N	B	4.5	4.5

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## Appendix B – Base Points (Up to 2015 Models)

2800cs	1968	1971	E9	31	4	4	3025	170	6000	174	3700	3.45	N	B	6	6
3.0cs	1971	1975	E9	26	7	7	3175	180	5800	185	3500	3.64	N	B	6	6
3.0csi	1971	1975	E9	24	3	3	3086	176	5500	185	4500	3.64	N	B	6	6
3.0csL	1973	1975	E9	48	8	8	2800	206	5600	0	0	3.25	Y	B	7	7
2002 Turbo	1973	1974	E10	46	7	7	2290	170	5800	179	4000	3.36	N	B	6	6
530i	1975	1976	E12/6	22	3	3	3300	176	5500	185	4500	3.64	N	B	6	6
530i	1977	1978	E12/6	21	2	2	3300	176	5500	185	4500	3.45	N	B	6	6
528i	1979	1979	E12/6	20	2	2	3320	169	5500	170	4500	3.45	N	B	6	6
528i	1980	1981	E12/6	22	2	2	3180	169	5500	170	4500	3.45	N	B	6	6
528e	1982	1988	E12/6	22	0	0	3100	121	4250	170	3250	2.93	N	B	6.5	6.5
316 Euro	1975	1983	E21	28	0	0	2293	90	6000	102	3800	3.91	N	B	5	5
320i	1977	1977	E21	30	0	0	2601	110	5800	112	3750	3.64	N	B	5.5	5.5
320i	1978	1979	E21	28	0	0	2601	110	5800	112	3750	3.64	N	B	5.5	5.5
320is	1978	1979	E21	29	0	0	2601	110	5800	112	3750	3.64	Y	S	5.5	5.5
320i	1980	1983	E21	29	0	0	2396	101	5800	100	4500	3.91	N	B	5.5	5.5
320is	1980	1983	E21	29	0	0	2396	101	5800	100	4500	3.91	Y	S	5.5	5.5
320/6 Euro	1977	1983	E21/5	33	1	1	2601	122	6000	118	4000	3.64	N	B	5.5	5.5
323i Euro	1977	1983	E21/5	38	4	4	2503	143	6000	140	4300	3.45	N	B	5.5	5.5
733i	1978	1979	E23	24	2	2	3530	177	5500	196	4000	3.45	N	B	6.5	6.5
735i Euro	1978	1987	E23	32	6	6	3307	220	5700	228	4000	3.25	N	B	6.5	6.5
733i	1980	1981	E23	21	1	1	3610	174	5200	188	4200	3.45	N	B	6.5	6.5
733i	1982	1983	E23	24	2	2	3610	181	6000	195	4000	3.45	N	B	6.5	6.5
733i	1984	1984	E23	24	2	2	3610	181	6000	195	4000	3.45	N	B	6.5	6.5
735i	1985	1987	E23	26	3	3	3440	182	5400	214	4000	3.45	N	B	6.5	6.5
L7	1986	1987	E23	26	3	3	3440	182	5400	214	4000	3.45	N	B	6.5	6.5
630csi	1977	1977	E24	19	2	2	3420	176	5500	185	4500	3.45	N	S	6	6
633csi	1978	1982	E24	22	2	2	3500	177	5500	196	4000	3.25	N	S	6.5	6.5
635csi Euro	1978	1984	E24	31	7	7	3153	218	5200	228	4000	3.25	N	S	6.5	6.5
633csi	1983	1984	E24	27	3	3	3280	181	6000	195	4000	3.25	N	S	6.5	6.5

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## Appendix B – Base Points (Up to 2015 Models)

M6 Euro	1983	1989	E24	45	8	8	3308	286	6500	250	4500	3.73	Y	M	7.5	7.5
635csi	1985	1986	E24	25	4	4	3375	182	5400	214	4000	3.45	N	S	6.5	6.5
L6	1987	1987	E24	26	3	3	3490	182	5400	214	4000	3.45	Y	B	6.5	6.5
M6	1987	1989	E24	38	7	7	3570	256	6500	243	4500	3.91	Y	M	7.5	7.5
635csi	1988	1989	E24	25	6	6	3550	208	5700	225	4000	3.64	N	S	6.5	6.5
533i	1982	1982	E28	31	4	4	3120	181	6000	195	4000	3.25	N	B	6.5	6.5
533i	1983	1984	E28	31	4	4	3120	181	6000	195	4000	3.25	N	B	6.5	6.5
524td	1985	1986	E28	26	0	0	2900	115	4800	155	2400	3.15	N	B	6	6
535i	1985	1988	E28	28	3	3	3270	182	5400	214	4000	3.25	N	B	6.5	6.5
M535i Euro	1986	1986	E28	44	7	7	3058	218	5200	229	4000	3.73	Y	S	6.5	6.5
535is	1987	1988	E28	31	3	3	3270	182	5400	214	4000	3.25	Y	S	6.5	6.5
M5	1987	1988	E28	45	7	7	3420	256	6500	243	4500	3.91	Y	M	7.5	7.5
M5 Euro	1987	1988	E28	48	8	8	3155	286	6500	251	4500	3.73	Y	M	6.5	6.5
Alpina B11-3.5	1987	1990	E28	48	5	5	3568	250	5700	243	4500	3.73	Y	S	10	10
H & B 327s	1984	1984	E30	52	6	6	2660	180	6000	175	4000	3.45	Y	S	7	7
318i	1984	1985	E30	33	0	0	2361	102	5800	103	4500	3.64	N	B	6	6
325/325e	1984	1985	E30	28	0	0	2770	121	4250	170	3250	2.79	N	B	6	6
323i Euro	1984	1986	E30	41	4	4	2403	139	6000	151	4000	3.45	N	B	5.5	6
Alpina B6-2.7	1984	1988	E30	56	6	6	2636	210	5800	197	5000	3.73	Y	S	8	8
316 Euro	1984	1990	E30	33	0	0	2183	90	6000	103	4000	3.91	N	B	5.5	5.5
320/6 Euro	1984	1990	E30	38	1	1	2491	122	6000	118	4000	3.64	N	B	6	5.5
Hartge H26	1984	1991	E30	52	7	7	2690	187	6000	190	4100	3.45	Y	S	7	7
325/325e	1986	1986	E30	27	0	0	2770	121	4250	170	3250	2.93	N	B	6	6
325es	1986	1988	E30	27	0	0	2785	121	4250	170	3250	2.93	Y	S	6	6
325(e)	1987	1988	E30	27	0	0	2765	121	4250	170	3250	2.93	N	B	6	6
325i	1987	1988	E30	32	5	5	2850	168	5800	164	4300	3.73	N	B	6	6
325is	1987	1988	E30	41	5	5	2815	168	5800	164	4300	3.73	Y	S	6.5	6.5
325i Convertible	1987	1990	E30	29	4	4	3015	168	5800	164	4300	3.73	N	B	6	6
Alpina C1-2.5	1987	1990	E30	53	5	5	2580	185	5800	173	5000	3.64	Y	S	8	8

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Alpina C2-2.7	1987	1990	E30	43	2	2	2897	210	5800	213	5800	3.64	Y	S	8	8
325i Euro	1987	1991	E30	41	8	8	2485	171	5800	170	3250	3.64	N	B	6	6
M3 Euro	1987	1991	E30	54	7	7	2568	200	6750	177	4750	3.25	Y	M	7	7
325ix	1988	1990	E30	36	0	0	3010	168	5800	164	4300	3.91	Y	B	7	7
M3	1988	1991	E30	47	7	7	2865	192	6750	170	4750	4.1	Y	M	7	7
M3 Dinan Stroker	1988	1991	E30	50	8	8	2865	220	6250	223	4000	4.1	Y	M	7	7
M3 Dinan Turbo	1988	1991	E30	54	8	8	2865	323	5500	324	4500	4.1	Y	M	7	7
325i	1989	1989	E30	31	5	5	2895	168	5800	164	4300	3.73	N	B	6	6
325is	1989	1991	E30	39	4	4	2865	168	5800	164	4300	3.73	Y	S	6.5	6.5
318i 4 Dr	1990	1991	E30	35	1	1	2657	134	6000	127	4600	4.1	N	B	6	6
318i Convertible	1990	1991	E30	30	1	1	2867	134	6000	127	4600	4.27	N	B	6	6
318is	1990	1991	E30	39	1	1	2602	134	6000	127	4600	4.1	N	S	6.5	6.5
325i	1990	1991	E30	33	5	5	2811	168	5800	164	4300	3.73	N	B	6	6
325ix	1991	1991	E30	37	0	0	2955	168	5800	164	4300	3.91	Y	B	7	7
325i Convertible	1991	1992	E30	32	4	4	2988	168	5800	164	4300	3.73	N	B	6.5	6.5
850i	1991	1993	E31	30	4	4	4123	296	5200	332	4100	2.65	Y	B	7.5	7.5
850csi	1994	1994	E31	43	8	8	4240	372	5300	402	4000	4.27	Y	S	9	9
840ci	1994	1997	E31	30	4	4	4123	282	5800	295	4500	3.64	Y	B	7.5	7.5
850ci	1994	1997	E31	33	6	6	4123	296	5200	332	4100	3.64	Y	B	7.5	7.5
850csi	1995	1997	E31	40	8	8	4240	372	5300	402	4000	2.93	Y	S	8	9
735i	1988	1992	E32	30	3	3	3835	208	5700	225	4000	3.64	Y	B	7	7
735iL	1988	1992	E32	26	2	2	4015	208	5700	225	4000	4.27	Y	B	7	7
750iL	1988	1994	E32	25	4	4	4167	296	5200	332	4100	3.64	N	B	7	7
740i	1993	1994	E32	27	5	5	4002	282	5800	295	4500	2.93	N	B	7	7
740iL	1993	1994	E32	26	4	4	4090	282	5800	295	4500	2.93	N	B	7	7
740i	1995	1995	E32	29	4	4	4145	282	5800	295	4500	3.15	N	B	8	8
525i	1989	1990	E34	29	1	1	3395	168	5800	164	4300	3.73	N	B	7	7
535i	1989	1993	E34	30	4	4	3570	208	5700	225	4000	3.46	N	B	7	7
525i	1991	1992	E34	30	2	2	3484	189	5900	188	4200	3.23	N	B	7	7

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## Appendix B – Base Points (Up to 2015 Models)

M5	1991	1993	E34	43	7	7	3805	310	6900	265	4750	3.91	Y	M	8	8
525i Touring	1992	1992	E34	25	2	2	3760	189	5900	188	4200	4.1	N	B	7	7
525i	1993	1995	E34	30	2	2	3484	189	5900	193	4200	3.23	N	B	7	7
525i Touring	1993	1995	E34	25	2	2	3760	189	5900	193	4200	4.1	N	B	7	7
530i	1993	1995	E34	28	3	3	3627	215	5800	214	4500	3.07	N	B	7	7
530i Touring	1993	1995	E34	24	2	2	3881	215	5800	214	4500	3.23	N	B	7	7
540i	1995	1995	E34	31	6	6	3693	282	5800	295	4500	2.93	N	B	7	7
540i Sport	1995	1995	E34	32	6	6	3645	282	5800	295	4500	2.93	N	S	7	7
325i 4 Dr	1992	1992	E36	37	5	5	3087	189	5500	188	3950	3.15	N	B	7	7
325is	1992	1992	E36	39	5	5	3021	189	5900	188	4200	3.15	N	B	7	7
318i 4 Dr	1992	1994	E36	31	1	1	2867	138	6000	129	4600	3.45	N	B	6	6
318is	1992	1994	E36	36	0	0	2867	138	6000	129	4500	3.45	N	B	7	7
318i Convertible	1993	1995	E36	30	0	0	3120	138	6000	129	4500	3.45	N	B	7	7
325i 4 Dr	1993	1995	E36	37	5	5	3087	189	5500	193	3950	3.15	N	B	7	7
325is	1993	1995	E36	38	5	5	3087	189	5900	193	4200	3.15	N	B	7	7
325is M Technik	1994	1994	E36	38	5	5	3087	189	5900	193	4200	3.15	N	M	7	7
325i Convertible	1994	1995	E36	33	3	3	3352	189	5900	193	4200	3.15	N	B	7	7
318i 4 Dr	1995	1995	E36	30	1	1	2933	138	6000	129	4500	3.45	N	B	6	6
318is	1995	1995	E36	34	0	0	2933	138	6000	129	4500	3.45	N	B	7	7
M3	1995	1995	E36	49	8	8	3175	240	6000	225	4250	3.15	Y	M	7.5	7.5
M3 Lightweight	1995	1995	E36	58	8	8	2950	240	6000	225	4250	3.23	Y	M	8.5	8.5
318i 4 Dr	1996	1997	E36	30	1	1	2976	138	6000	133	4300	3.45	N	B	6	6
318i Convertible	1996	1997	E36	31	0	0	3131	138	6000	133	4300	3.45	N	B	7	7
318is	1996	1997	E36	34	0	0	2976	138	6000	133	4300	3.45	N	B	7	7
328i Convertible	1996	1997	E36	32	3	3	3362	190	5300	206	3950	2.93	N	B	7	7
328i 4 Dr	1996	1998	E36	36	4	4	3120	190	5300	206	3950	2.93	N	B	7	7
328is	1996	1999	E36	36	4	4	3120	190	5300	206	3950	2.93	N	B	7	7
M3 4 Dr	1996	1998	E36	52	8	8	3175	240	6000	236	3800	3.23	Y	M	7.5	8.5
M3	1996	1999	E36	52	8	8	3175	240	6000	236	3800	3.23	Y	M	7.5	8.5

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M3 Convertible	1997	1999	E36	45	7	7	3494	240	6000	236	3800	3.23	Y	M	7.5	8.5
323i Convertible	1998	1998	E36	31	1	1	3296	168	5500	181	3950	2.93	N	B	7	7
323is	1998	1999	E36	36	2	2	3075	168	5500	181	3950	2.93	N	B	7	7
328i Convertible	1998	1999	E36	32	3	3	3395	190	5300	206	3950	2.93	N	B	7	7
318ti	1995	1995	E36/5	34	1	1	2745	138	6000	129	4500	3.45	N	B	6	6
318ti	1996	1999	E36/5	35	2	2	2745	138	6000	133	4300	3.45	N	B	6	6
Z3 1.9	1996	1998	E36/7	39	1	1	2701	138	6000	133	4300	3.45	N	B	7	7
Z3 2.8	1996	1998	E36/7	40	6	6	2844	189	5300	203	3950	3.15	N	B	7	7
Z3 2.3	1999	2000	E36/7	39	5	5	2899	170	5500	181	3500	3.15	N	B	7	7
Z3 2.8	1999	2000	E36/7	41	7	7	2910	193	5500	206	3500	3.15	N	B	7	7
Z3 Roadster 2.5i	2001	2002	E36/7	41	7	7	2899	184	6000	175	3500	3.46	N	B	7	7
Z3 Roadster 3.0i	2001	2002	E36/7	49	8	8	2910	225	5900	214	3500	3.07	N	B	8.5	8.5
M Roadster	1998	2000	E36/7S	53	8	8	3086	240	6000	236	3800	3.23	Y	M	7.5	9
M Roadster	2001	2002	E36/7S	55	9	9	3086	315	7400	251	4900	3.23	Y	M	7.5	9
Z3 Coupe 2.8	1999	2000	E36/8	48	7	7	2943	193	5500	206	3500	3.15	Y	B	7	7
Z3 Coupe 3.0i	2001	2002	E36/8	49	8	8	2943	225	5900	214	3500	3.07	N	B	8.5	8.5
M Coupe	1998	2000	E36/8S	52	8	8	3131	240	6000	236	3800	3.23	Y	M	7.5	9
M Coupe	2001	2002	E36/8S	54	9	9	3131	315	7400	251	4900	3.23	Y	M	7.5	9
740i	1998	2001	E38	29	7	7	4255	282	5400	324	3700	2.93	N	B	8	8
528i	1997	1998	E39	29	2	2	3450	190	5300	206	3950	2.93	N	B	7	7
540i	1997	1998	E39	34	7	7	3748	282	5700	310	3900	2.81	N	B	8	8
M5	1998	2003	E39	46	9	9	4024	394	6600	368	3800	3.15	Y	M	8	9.5
528i Sports Wagon	1999	1999	E39	25	4	4	3726	193	5500	206	3500	4.1	N	B	7	7
528i	1999	2000	E39	31	4	4	3495	193	5500	206	3500	2.93	N	B	7	7
540i	1999	2003	E39	28	7	7	3803	282	5400	324	3600	2.81	N	B	7	7
540i Sports Wagon	1999	2003	E39	28	7	7	4056	282	5400	324	3600	3.15	N	B	7	7
525i	2001	2003	E39	32	4	4	3450	184	6000	175	3500	3.15	N	B	7	7
525i Sports Wagon	2001	2003	E39	30	1	1	3682	184	6000	175	3500	2.93	N	B	7	7
530i	2001	2003	E39	33	7	7	3494	225	5900	214	3500	2.93	N	B	7	7

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323i	1999	2000	E46	31	4	4	3153	170	5500	181	3500	3.07	N	B	6.5	6.5
328i	1999	2000	E46	37	5	5	3197	193	5500	206	3500	2.93	N	B	7	7
328Ci	2000	2000	E46	36	6	6	3197	193	5500	206	3500	3.07	N	B	7	7
323Ci Convertible Sport	1999	2000	E46	28	3	3	3560	170	5500	181	3500	3.46	N	S	8	7
325i Sedan	2001	2005	E46	36	5	5	3241	184	6000	175	3500	3.15	N	B	7	7
325Ci Coupe	2001	2005	E46	36	5	5	3252	184	6000	175	3500	3.15	N	S	7	7
325xi Sedan	2001	2005	E46	33	0	0	3494	184	6000	175	3500	3.23	N	B	7	7
325i Wagon	2001	2005	E46	35	4	4	3384	184	6000	175	3500	3.15	N	B	7	7
325xi Wagon	2001	2005	E46	32	0	0	3627	184	6000	175	3500	3.23	N	B	7	7
330i Sedan	2001	2005	E46	37	8	8	3318	225	5900	214	3500	2.93	N	B	7	7
330xi Sedan	2001	2005	E46	39	0	0	3527	225	5900	214	3500	3.07	N	B	7	7
330xi Wagon	2001	2005	E46	39	0	0	3666	225	5900	214	3500	3.23	N	B	7	7
325Ci Convertible	2001	2006	E46	30	3	3	3560	184	6000	175	3500	3.46	N	B	7	7
330Ci Convertible	2001	2006	E46	32	6	6	3616	225	5900	214	3500	2.93	N	B	7	7
330Ci Coupe	2001	2006	E46	36	7	7	3351	225	5900	214	3500	2.93	N	S	7	7
M3	2001	2007	E46	54	9	9	3415	333	7900	262	4900	3.64	Y	M	8	9
M3 (Without Sunroof)	2001	2007	E46	55	9	9	3365	333	7900	262	4900	3.64	Y	M	8	9
M3 Convertible	2001	2007	E46	47	8	8	3781	333	7900	262	4900	3.64	Y	M	8	9
330i Sedan Performance Package	2003	2005	E46	41	8	8	3370	235	5900	222	3500	3.07	N	S	8	8.5
330Ci Convertible Performance Package	2004	2006	E46	37	7	7	3616	235	5900	222	3500	3.07	N	S	8	8.5
330Ci Coupe Performance Package	2004	2006	E46	43	8	8	3285	235	5900	222	3500	3.07	N	S	8	8.5
325Ci Coupe	2006	2006	E46	36	5	5	3197	184	6000	175	3500	3.15	N	S	7	7
Z8	2001	2001	E52	56	9	9	3494	394	6600	368	3800	3.15	Y	S	8	9.5
525i	2004	2005	E60	35	4	4	3267	184	6000	175	3500	3.15	N	B	7	7
530i	2001	2005	E60	39	7	7	3311	225	5900	214	3500	2.93	N	B	7.5	7.5
545i	2004	2005	E60	42	9	9	3587	325	6100	330	3600	2.93	N	S	8	9

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## Appendix B – Base Points (Up to 2015 Models)

525i	2006	2007	E60	40	8	8	3278	215	6250	185	2750	3.38	N	B	7.5	7.5
525xi	2006	2007	E60	44	0	0	3477	215	6250	185	2750	3.46	Y	B	7.5	7.5
530i	2006	2007	E60	42	9	9	3322	255	6600	220	2750	3.23	N	B	7.5	7.5
530xi	2006	2007	E60	51	0	0	3488	255	6600	220	2750	3.23	Y	B	7.5	7.5
530xi Sports Wagon	2006	2007	E60	46	0	0	3708	255	6600	220	2750	3.38	Y	B	7.5	7.5
550i	2006	2010	E60	40	9	9	3653	360	6300	360	3400	2.93	N	B	7.5	7.5
M5	2006	2010	E60	51	9	9	3862	500	7750	383	6100	3.62	Y	M	8.5	9.5
528i	2008	2010	E60	40	8	8	3355	230	6500	200	2750	3.38	N	B	7.5	7.5
528xi	2008	2010	E60	43	0	0	3620	230	6500	200	2750	3.46	Y	B	7.5	7.5
535i	2008	2010	E60	40	9	9	3510	300	5800	300	1400	3.08	N	B	7.5	7.5
535xi	2008	2010	E60	50	0	0	3796	300	5800	300	1400	3.08	Y	B	7.5	7.5
535xi Sports Wagon	2008	2010	E60	47	0	0	3995	300	5800	300	1400	3.08	Y	B	7.5	7.5
645Ci	2004	2005	E63	40	9	9	3631	325	6100	330	3600	3.46	N	B	8	8
645Ci Convertible	2004	2005	E63	37	9	9	4028	325	6100	330	3600	3.46	N	B	8	8
M6	2006	2010	E63	50	9	9	3759	500	7750	383	6100	3.62	Y	M	8.5	9.5
650i Coupe	2006	2011	E63	42	9	9	3664	360	6300	360	3400	3.46	N	B	8	8
M6 convertible	2006	2010	E64	45	9	9	4248	500	7750	383	6100	3.62	Y	M	8.5	9.5
650i Convertible	2006	2011	E64	37	9	9	4127	360	6300	360	3400	3.46	N	B	8	8
745i	2002	2004	E65	32	8	8	4226	325	6100	330	3600	3.38	N	B	8	8
745Li	2002	2004	E66	29	8	8	4314	325	6100	330	3600	3.38	N	B	8	8
760i	2002	2004	E66	34	9	9	4612	438	6000	444	3950	4.17	N	B	9	10
750i	2006	2009	E66	32	9	9	4336	360	6300	360	3400	3.38	N	B	8	8
750Li	2006	2008	E67	31	8	8	4402	360	6300	360	3400	3.38	N	B	8	8
760i	2006	2009	E68	32	8	8	4612	438	6000	444	3950	3.15	N	B	9	10
760Li	2006	2009	E69	30	8	8	4755	438	6000	444	3950	3.15	N	B	9	10
135i Coupe	2008	2010	E82	46	9	9	3182	300	5800	300	1400	3.08	N	S	7.5	8.5
128i Coupe	2008	2013	E82	41	9	9	3102	230	6500	200	2750	3.23	N	B	7	7
135i Coupe	2011	2013	E82	46	9	9	3182	300	5800	300	1200	3.08	N	S	7.5	8.5

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## Appendix B – Base Points (Up to 2015 Models)

1M Coupe	2011	2012	E82	63	9	9	3131	335	5800	370	1500	3.15	Y	M	9	10
Z4 2.5i	2003	2005	E85	44	8	8	2782	184	6000	175	3500	3.46	N	B	7	7
Z4 3.0i	2003	2005	E85	50	8	8	2848	225	5900	214	3500	3.07	N	B	8	8
Z4 3.0i	2006	2008	E85	49	9	9	2870	215	6250	185	2750	3.07	N	B	8	8
Z4 3.0is	2006	2008	E85	51	9	9	2936	255	6600	220	2750	3.07	N	B	8	8
Z4 M	2006	2008	E85	62	9	9	2930	330	7900	262	4900	3.07	Y	M	8	9
Z4 3.0is Coupe	2006	2008	E86	50	9	9	2958	255	6600	220	2750	3.07	N	B	8	8
Z4 M Coupe	2006	2008	E86	58	9	9	3080	330	7900	262	4900	3.07	Y	M	8	9
135i Convertible	2008	2010	E88	39	9	9	3510	300	5800	300	1400	3.08	N	S	7	7
128i Convertible	2008	2014	E88	38	8	8	3407	230	6500	200	2750	3.23	N	B	7	7
135i Convertible	2011	2014	E88	40	9	9	3510	300	5800	300	1200	3.08	N	B	7	7
Z430i	2009	2010	E89	50	9	9	3076	255	6600	220	2600	4.27	N	B	8	8
Z435i	2009	2010	E89	48	9	9	3285	300	5800	300	1400	3.08	N	B	8	8.5
Z430i	2011	2011	E89	49	9	9	3102	255	6600	220	2600	4.27	N	B	8	8
Z435i	2011	2015	E89	47	9	9	3355	300	5800	300	1200	3.08	N	B	8	8.5
Z435is	2011	2015	E89	47	9	9	3399	335	5900	370	1300	3.08	N	S	8	8.5
Z428i	2012	2015	E89	49	9	9	3098	240	5000	260	1250	3.08	N	B	8	8
325i	2006	2006	E90	40	8	8	3135	215	6250	185	2750	3.23	N	B	7	7
325xi 4 Dr	2006	2006	E90	43	0	0	3410	215	6250	185	2750	3.23	Y	B	7	7
330i	2006	2006	E90	44	9	9	3267	255	6600	220	2750	3.15	N	B	8	8
330xi 4 Dr	2006	2006	E90	51	0	0	3477	255	6600	220	2750	3.15	Y	B	8	8
335i Sedan	2007	2010	E90	43	9	9	3443	300	5800	300	1400	3.08	N	B	8	8
328i Sedan	2007	2011	E90	40	9	9	3190	230	6500	200	2750	3.23	N	B	7	7
328xi Sedan	2007	2011	E90	46	0	0	3432	230	6500	200	2750	3.38	Y	B	7	7
335xi Sedan	2008	2010	E90	51	0	0	3764	300	5800	300	1400	3.08	Y	B	8	8
M3 sedan	2008	2011	E90	58	9	9	3576	414	8300	295	3950	3.15	Y	M	8.5	9.5
335d Sedan	2009	2011	E90	38	7	7	3575	265	4200	425	1750	2.81	N	B	8	8
335i Sedan	2011	2011	E90	43	9	9	3443	300	5800	300	1200	3.08	N	B	8	8
335xi Sedan	2011	2011	E90	51	0	0	3764	300	5800	300	1200	3.08	Y	B	8	8

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## Appendix B – Base Points (Up to 2015 Models)

325xi Sports Wagon	2006	2006	E91	40	0	0	3587	215	6250	185	2750	3.38	Y	B	7	7
328i Wagon	2007	2012	E91	36	8	8	3377	230	6500	200	2750	3.15	N	B	7	7
328xi Wagon	2007	2012	E91	42	0	0	3620	230	6500	200	2750	3.38	Y	B	7	7
335i Coupe	2007	2010	E92	43	9	9	3421	300	5800	300	1400	3.08	N	B	8	8
328i Coupe	2007	2013	E92	43	8	8	3201	230	6500	200	2750	3.23	N	B	8	8
328xi Coupe	2007	2013	E92	49	0	0	3432	230	6500	200	2750	3.38	Y	B	8	8
335xi Coupe	2008	2010	E92	54	0	0	3609	300	5800	300	1400	3.08	Y	B	8	8
M3 coupe	2008	2013	E92	59	9	9	3554	414	8300	295	3950	3.15	Y	M	8.5	9.5
335i Coupe	2011	2013	E92	43	9	9	3421	300	5800	300	1200	3.08	N	B	8	8
335is Coupe	2011	2013	E92	45	9	9	3421	320	5900	370	1300	3.08	N	B	8	8.5
335xi Coupe	2011	2013	E92	54	0	0	3609	300	5800	300	1200	3.08	Y	B	8	8
335i Convertible	2007	2010	E93	41	9	9	3796	300	5800	300	1400	3.08	N	B	8	8
328i Convertible	2007	2013	E93	38	8	8	3642	230	6500	200	2750	3.23	N	B	8	8
M3 convertible	2008	2013	E93	55	9	9	3995	414	8300	295	3950	3.15	Y	M	8.5	9.5
335i Convertible	2011	2013	E93	41	9	9	3796	300	5800	300	1200	3.08	N	B	8	8
335is Convertible	2011	2013	E93	41	9	9	3851	320	5900	370	1300	3.08	N	B	8	8.5
750i	2010	2012	F01	33	9	9	4399	400	5500	450	1800	3.38	N	B	8	8
750i xDrive	2010	2012	F01	48	0	0	4553	400	5500	450	1800	3.46	Y	B	8	8
740i	2011	2013	F01	33	9	9	4194	315	5800	330	1600	3.46	N	B	8	8
ActiveHybrid 7	2011	2012	F01	35	9	9	4645	455	5500	515	2000	2.81	N	B	8.5	8.5
750Li	2010	2012	F02	32	9	9	4476	400	5500	450	1800	3.38	N	B	8	8
750Li xDrive	2010	2012	F02	46	0	0	4696	400	5500	450	1800	3.46	Y	B	8	8
760Li	2010	2013	F02	31	9	9	4860	535	5250	550	1500	2.81	N	S	8.5	8.5
740Li	2011	2013	F02	32	8	8	4282	315	5800	330	1600	3.46	N	B	8	8
ActiveHybrid 7	2013	2015	F02	35	8	8	4515	350	5800	370	1	2.93	N	B	8.5	8.5
535i Gran Turismo	2011	2015	F07	30	8	8	4491	300	5800	300	1200	3.08	N	B	8	8
535i Gran Turismo xDrive	2011	2015	F07	37	0	0	4557	300	5800	300	1200	3.08	N	B	8	8
550i Gran Turismo	2011	2013	F07	30	8	8	4744	400	5500	450	1750	3.08	N	B	8	8

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## Appendix B – Base Points (Up to 2015 Models)

550i Gran Turismo xDrive	2011	2013	F07	42	0	0	4910	400	5500	450	1750	3.08	N	B	8	8
528i	2011	2011	F10	36	8	8	3664	240	6600	230	2600	3.39	N	B	8	8
535i	2011	2015	F10	35	8	8	3906	300	5800	300	1200	3.08	N	B	8	8
535i xDrive	2011	2015	F10	43	0	0	4083	300	5800	300	1200	3.08	N	B	8	8
550i	2011	2013	F10	34	8	8	4193	400	5500	450	1750	3.08	N	B	8	8
550i xDrive	2011	2013	F10	50	0	0	4369	400	5500	450	1750	3.08	N	B	8	8
ActiveE	2011	2012	E82	33	1	1	3836	168	4475	184	0	3.23	N	B	7	7
528i	2012	2015	F10	35	6	6	3649	240	5000	260	1250	3.23	N	B	8	8
528i xDrive	2012	2015	F10	37	0	0	3836	240	5000	260	1250	3.23	N	B	8	8
640i convertible	2012	2015	F12	34	7	7	4090	315	5800	330	1400	3.23	N	S	8	8
650i convertible	2012	2012	F12	35	8	8	4366	400	5500	450	1750	3.08	N	S	8.5	8.5
650i convertible xDrive	2012	2012	F12	49	0	0	4443	400	5500	450	1750	3.08	N	S	8.5	8.5
640i	2012	2015	F13	36	8	8	3836	315	5800	30	1400	3.23	N	S	8	8
650i	2012	2012	F13	37	8	8	4058	400	5500	450	1750	3.08	N	S	8.5	8.5
650i xDrive	2012	2012	F13	52	0	0	4222	400	5500	450	1750	3.08	N	S	8.5	8.5
328i sedan	2012	2013	F30	40	7	7	3241	240	5000	260	1250	3.91	N	B	7.5	7.5
335i sedan	2012	2013	F30	44	9	9	3406	300	5800	300	1200	3.23	N	B	8	8
MINI Convertible	2005	2008	R52	20	1	1	2700	115	6000	110	4500	3.94	N	B	5.5	5.5
MINI Convertible S	2005	2008	R52	30	7	7	2844	168	6000	162	4000	2.87	N	B	6.5	6.5
MINI Cooper S	2002	2004	R53	35	7	7	2513	163	6000	155	4000	2.74	N	S	6.5	6.5
MINI Cooper John Cooper Works	2002	2005	R53	47	9	9	2513	200	6000	177	4000	2.74	Y	S	7	7
MINI Cooper	2002	2006	R53	28	2	2	2315	115	6000	110	4500	3.94	N	B	5.5	5.5
MINI Cooper S	2005	2006	R53	36	8	8	2513	168	6000	162	4000	2.87	N	S	6.5	6.5
MINI Cooper JCW GP	2006	2006	R53	45	8	8	2578	214	7100	184	4600	2.74	Y	S	7	7
MINI Cooper Clubman	2008	2014	R55	25	2	2	2573	118	6000	114	4250	4.35	N	B	5.5	5.5
MINI Cooper Clubman S	2008	2014	R55	33	8	8	2705	181	5500	177	1600	3.65	N	B	6.5	6.5
MINI Cooper Clubman John	2009	2014	R55	36	9	9	2738	208	6000	207	1900	3.65	N	S	7	7

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## Appendix B – Base Points (Up to 2015 Models)

Cooper Works																
MINI Cooper	2007	2013	R56	28	2	2	2396	118	6000	114	4250	4.35	N	B	5.5	5.5
MINI Cooper S	2007	2013	R56	37	8	8	2513	181	5500	177	1600	3.65	N	B	6.5	6.5
MINI Cooper John Cooper Works	2009	2013	R56	39	9	9	2551	208	6000	207	1900	3.71	N	S	7	7
MINI Convertible	2009	2015	R57	29	1	1	2580	118	6000	114	4250	4.35	N	B	6.5	6.5
MINI Convertible John Cooper Works	2009	2015	R57	36	9	9	2712	208	6000	207	1900	3.71	N	S	7	7
MINI Convertible S	2009	2015	R57	34	8	8	2690	181	5500	177	1600	3.65	N	S	6.5	6.5
Mini Cooper Coupe	2012	2015	R58	29	3	3	2392	121	6000	118	4250	4.35	N	B	5.5	5.5
Mini Cooper Coupe John Cooper Works	2012	2015	R58	39	9	9	2536	208	6000	207	1900	3.71	N	S	7	7
Mini Cooper Coupe S	2012	2015	R58	35	7	7	2514	181	5500	177	1600	4.35	N	S	6.5	6.5
Mini Cooper Roadster	2012	2015	R59	32	3	3	2470	121	6000	118	4250	4.35	N	B	6.5	6.5
Mini Cooper Roadster John Cooper Works	2012	2015	R59	38	9	9	2602	208	6000	207	1900	3.71	N	S	7	7
Mini Cooper Roadster S	2012	2015	R59	35	8	8	2580	181	5500	177	1600	4.35	N	S	6.5	6.5
Mini Cooper Countryman S ALL4	2011	2015	R60	41	0	0	3048	181	5500	177	1600	3.65	N	S	7	7
Mini Cooper Countryman S	2011	2015	R60	33	8	8	2894	181	5500	177	1600	3.65	N	S	7	7
Mini Cooper Countryman	2011	2015	R60	27	1	1	2794	121	6000	114	4250	4.72	N	B	7	7
740iL	1998	2001	E38	29	7	7	4288	282	5400	324	3700	2.93	N	B	8	8
750iL	1998	2001	E38	24	7	7	4597	326	5000	361	3900	2.81	N	B	7.5	7.5
760Li	2002	2004	E66	31	8	8	4722	438	6000	444	3950	3.38	N	B	9	10
135is coupe	2013	2013	E82	48	9	9	3108	320	5800	317	1300	3.08	N	S	7.5	8.5
135is Convertible	2013	2014	E88	44	9	9	3510	320	5800	317	1500	3.08	N	B	7.5	8.5
328xi sedan	2013	2013	F30	44	0	0	3430	240	5000	260	1250	3.15	N	B	7.5	7.5
335xi sedan	2013	2013	F30	57	0	0	3530	300	5800	300	1200	3.23	N	B	8	8
ActiveHybrid 3	2013	2013	F30	43	8	8	3695	335	5800	330	1200	2.81	N	B	8	8

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## Appendix B – Base Points (Up to 2015 Models)

ActiveHybrid 5	2013	2015	F10	36	8	8	4233	335	5800	330	1300	2.99	N	B	8	8
640i Gran Coupe	2013	2015	F06	34	7	7	4026	315	5800	330	1300	3.23	N	S	8	8
650i Gran Coupe	2013	2015	F06	38	9	9	4165	445	5500	480	2000	2.81	N	S	8.5	8.5
650i Gran Coupe xDrive	2013	2015	F06	55	0	0	4440	445	5500	480	2000	2.81	N	S	8.5	8.5
650i convertible	2013	2015	F12	36	8	8	4366	445	5500	480	2000	3.08	N	S	8.5	8.5
650i convertible xDrive	2013	2015	F12	53	0	0	4443	445	5500	480	2000	3.08	N	S	8.5	8.5
650i	2013	2015	F13	37	9	9	4058	445	5500	480	2000	3.08	N	S	8.5	8.5
650i xDrive	2013	2015	F13	57	0	0	4222	445	5500	480	2000	3.08	N	S	8.5	8.5
740Li	2013	2015	F02	29	8	8	4360	315	5800	330	1600	3.08	N	B	8	8
750i	2013	2015	F01	36	9	9	4399	445	5500	480	2000	2.81	N	B	8.5	8.5
750i xDrive	2013	2015	F01	54	0	0	4553	445	5500	480	2000	2.81	Y	B	8.5	8.5
750Li	2013	2015	F02	35	9	9	4476	445	5500	480	2000	2.81	N	B	8.5	8.5
750Li xDrive	2013	2015	F02	51	0	0	4696	445	5500	480	2000	2.81	Y	B	8.5	8.5
Mini Cooper Countryman S ALL4 John Cooper Works	2013	2015	R60	60	0	0	3043	208	6000	207	1900	3.71	N	S	17	7
535d	2014	2015	F10	31	6	6	3920	255	4000	413	1	2.6	N	B	8	8
535d xDrive	2014	2015	F10	36	0	0	4090	255	4000	413	1	2.6	N	B	8	8
550i	2014	2015	F10	37	9	9	4112	445	5500	480	1	3.08	N	B	8	8
550i xDrive	2014	2015	F10	55	0	0	4266	445	5500	480	1	3.08	N	B	8	8
550i Gran Turismo	2014	2015	F07	31	8	8	4770	445	5500	480	1	3.08	N	B	8	8
550i Gran Turismo xDrive	2014	2015	F07	47	0	0	4910	445	5500	480	1	3.08	N	B	8	8
640i Gran Coupe xDrive	2014	2015	F06	42	0	0	4200	315	5800	330	1	3.23	N	S	8	8
740Li xDrive	2014	2015	F02	41	0	0	4360	315	5800	330	1	3.08	N	B	8	8
M5 Sedan	2014	2015	F10	50	9	9	4222	552	6000	502	1	3.15	Y	M	9	10
M6 Coupe	2014	2015	F13	52	9	9	4090	560	6000	500	1	3.15	Y	M	9.5	10.5
M6 Convertible	2014	2015	F12	51	9	9	4343	560	6000	500	1	3.15	Y	M	9.5	10.5
M6 Gran Coupe	2014	2015	F06	50	9	9	4265	560	6000	500	1	3.15	Y	M	9.5	10

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228i Coupe	2014	2015	F22	41	8	8	3095	240	5000	255	1	3.91	N	B	7	7
M235i Coupe	2014	2015	F22	43	9	9	3340	320	5800	330	1	3.46	N	S	7.5	7.5
320i Sedan	2014	2015	F30	41	5	5	3085	180	5000	200	1	3.08	N	B	7.5	7.5
320i Sedan xDrive	2014	2015	F30	41	0	0	3245	180	5000	200	1	3.39	N	B	7.5	7.5
328i Sedan	2014	2015	F30	42	8	8	3195	240	5000	255	1	3.91	N	B	7.5	7.5
328i Sedan xDrive	2014	2015	F30	44	0	0	3430	240	5000	255	1	3.15	N	B	7.5	7.5
335i Sedan	2014	2015	F30	44	9	9	3380	300	5800	300	1	3.23	N	B	8	8
335i Sedan xDrive	2014	2015	F30	56	0	0	3560	300	5800	300	1	3.23	N	B	8	8
ActiveHybrid 3	2014	2015	F30	44	8	8	3660	335	5800	330	1	2.81	N	B	8	8
328d Sedan	2014	2015	F30	31	2	2	3295	180	4000	280	1	2.81	N	B	7.5	7.5
328d Sedan xDrive	2014	2015	F30	30	0	0	3455	180	4000	280	1	2.81	N	B	7.5	7.5
328i Wagon xDrive	2014	2015	F31	41	0	0	3615	240	5000	255	1	3.15	N	B	7.5	7.5
328d Wagon xDrive	2014	2015	F31	21	0	0	3625	180	4000	280	1	3.15	N	B	7.5	7.5
328i Gran Turismo xDrive	2014	2015	F34	39	0	0	3750	240	5000	255	1	3.08	N	B	8	8
335i Gran Turismo xDrive	2014	2015	F34	48	0	0	3845	300	5800	295	1	3.15	N	B	8	8
428i Coupe	2014	2015	F32	40	7	7	3305	240	5000	255	1	3.91	N	B	7.5	7.5
428i Coupe xDrive	2014	2015	F32	42	0	0	3470	240	5000	255	1	3.15	N	B	7.5	7.5
435i Coupe	2014	2015	F32	42	9	9	3445	300	5800	300	1	3.23	N	B	8	8
435i Coupe xDrive	2014	2015	F32	54	0	0	3590	300	5800	300	1	3.23	N	B	8	8
428i Convertible	2014	2015	F33	33	6	6	3800	240	5000	255	1	3.15	N	B	7.5	7.5
435i Convertible	2014	2015	F33	37	8	8	3930	300	5800	300	1	3.15	N	B	8	8
Mini Cooper Paceman S ALL4	2013	2015	R61	41	0	0	3045	181	5500	177	1	3.65	N	S	7	7
Mini Cooper Paceman S	2013	2015	R61	33	8	8	2905	181	5500	177	1	3.65	N	S	7	7
Mini Cooper Paceman	2013	2015	R61	28	1	1	2775	121	6000	114	1	4.35	N	B	7	7
Mini Cooper Paceman S ALL4 John Cooper Works	2013	2015	R61	52	0	0	2905	208	6000	207	1	3.71	N	M	7.5	7.5
MINI Cooper Hardtop	2014	2015	F56	31	7	7	2440	134	4500	162	1	3.42	N	B	5.5	5.5

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## Appendix B – Base Points (Up to 2015 Models)

MINI Cooper Hardtop S	2014	2015	F56	35	8	8	2595	189	4700	207	1	3.59	N	B	6.5	6.5
i3	2014	2015		48	9	9	2469	170	0	184	1	0	N	B	5	5
228i Coupe xDrive	2014	2015	F22	47	0	9	3305	240	5000	255	1	3.91	N	B	7	7
M235i Coupe xDrive	2014	2015	F22	54	0	9	3530	320	5800	330	1	3.08	N	S	7.5	7.5
228i Convertible	2015	2015	F23	35	6	5	3460	240	5000	255	1	3.08	N	B	7	7
228i Convertible xDrive	2015	2015	F23	40	0	9	3600	240	5000	255	1	3.08	N	B	7	7
M235i Convertible	2015	2015	F23	40	7	9	3560	320	5800	330	1	3.46	N	S	7.5	7.5
428i Gran Coupe	2014	2015	F36	34	5	5	3450	240	5000	255	1	3.15	N	B	7.5	7.5
428i Gran Coupe xDrive	2014	2015	F36	41	0	9	3575	240	5000	255	1	3.15	N	B	7.5	7.5
435i Gran Coupe	2014	2015	F36	40	8	9	3575	300	5800	300	1	3.15	N	B	8	8
435i Gran Coupe xDrive	2014	2015	F36	51	0	9	3720	300	5800	300	1	3.15	N	B	8	8
M3 Sedan	2015	2015	F80	63	9	9	3375	425	5500	406	1	3.46	Y	M	10	9
M4 Coupe	2015	2015	F82	62	9	9	3420	425	5500	406	1	3.46	Y	M	10	9
M4 Convertible	2015	2015	F83	61	9	9	3890	425	5500	406	1	3.46	Y	M	10	9
X128i sDrive	2013	2015	E84	36	5	6	3362	240	5000	255	1	3.15	N	B	7.5	7.5
X128i xDrive	2013	2015	E84	41	0	9	3561	240	5000	255	1	3.15	N	B	7.5	7.5
X135i xDrive	2013	2015	E84	52	0	9	3726	300	5800	300	1	3.64	N	B	8	8
MINI Cooper Hardtop John Cooper Works	2015	2015	F56	36	8	6	2680	228	5200	236	1	3.59	N	B	7	7
MINI Cooper Hardtop 4-door	2015	2015	F55	28	7	1	2585	134	4500	162	1	3.42	N	B	5.5	5.5
MINI Cooper Hardtop S 4-door	2015	2015	F55	32	8	4	2730	189	4700	207	1	3.59	N	B	6.5	6.5
323Ci Coupe	1999	2000	E46	31	4	4	3153	170	5500	181	3500	3.07	N	B	6.5	6.5
i8	2014	2015	NULL	70	0	9	3290	357	5800	420	0	3.68	Y	S	7.5	8.5

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