

# MOTORCYCLE TIRE SAFETY INFO

## SELECTING NEW TIRES

When selecting new tires, make sure they meet the requirements of your motorcycle and its expected usage. Always refer to the owner's manual and tire manufacturer's website for recommended tire size, construction, performance, and suggested air pressure.

## CHECKING TIRE PRESSURE IS THE MOST IMPORTANT TIRE MAINTENANCE FUNCTION YOU CAN PERFORM

Check cold tire pressure frequently with a good-quality gauge that holds a reading - and always before extended trips. Inspect tires frequently for damage, and always heed warning signs such as vibration, handling instability, rubbing, or tire noise that occurs during the operation of your motorcycle.

## MOTORCYCLE MAINTENANCE

Regular inspection of the motorcycle generally, and of wheels/tires in particular, is suggested because tire mileage and performance are adversely affected by a poorly maintained vehicle. Refer to the owner's manual for recommended suspension settings. Improperly maintained components and incorrect or unbalanced front fork pressures will affect stability. Low suspension pressure will generate excessive tire stresses.

## SIDEWALL TREATMENT

Use a mild soap solution to clean sidewalls, white striping or lettering. Rinse off with plain water. Never apply any other material, cleaners or dressings to enhance sidewall appearance. These may degrade the rubber and remove inherent ozone-cracking/weather-checking resistance.

## TIRE STORAGE PRECAUTIONS

The treatment that tires receive during extended periods of inactivity may directly affect their mileage and performance

- **Temperature:** Try to avoid frequent and varied extremes of temperatures during storage. Do not keep tires next to radiators or sources of heat. Tires subjected to these conditions will age more quickly than those stored in a cool, constant environment.
- **Sunlight:** Tires stored in direct sunlight for long periods of time will harden and age more quickly than those stored in a cool, constant environment.
- **Ozone:** Do not store tires where electric motors are present. The high concentration of ozone will accelerate tire aging.
- **Oil and gasoline:** Prolonged contact with oil or gasoline causes contamination of the rubber compound, making the tire unsuitable for use. Wipe off any oil or gasoline immediately with a clean rag. Do not use any tire that has been exposed to oil, gasoline, corrosives, or non-rubber compatible liquids.

## SAFETY TIPS:

Refer to your machine's documentation for proper maintenance. Always give tires a gentle "run-in" period of 100 miles to get the feel of new tires. This means they should not be subjected to maximum power, abrupt lean-over, hard cornering, etc. Always match the front and rear tires for optimal handling, safety and performance. Mixing radials, or mixing radials with bias or belted-bias tires, may adversely affect handling and stability.

- **Air pressure:** Always maintain the recommended tire pressure for the type of motorcycle that is being ridden; check the owner's manual. Under inflated tires may cause wheel damage when ridden on rocky, rough terrain and allow the motorcycle to squirm or wander on smooth, hard terrain. Over inflation may damage the tires and cause an unnecessarily harsh ride. To accurately measure tire pressure, use a standard tire pressure gauge.
- **Condition:** Check for cuts and gouges that may cause air leakage. Also check the tires for missing knobs and excessively worn tread.
- **Wheels:** To avoid loss of control or injury, make sure axle nuts are tight and secured. Grasp each tire at the front and rear and try to rock it on its axle to detect worn-out bearings or loose nuts. There should be no free play or slip as you rock the wheel. Inspect wheels for broken or loose spokes and for cracks on the hub or rim.

## MINIMUM TREAD DEPTH

Excessively worn tires are more susceptible to penetrations. Always remove motorcycle tires from service before they reach the tread-wear indicator bars (1/32 of an inch tread pattern depth remaining). Worn/unworn tire combinations and worn tires used in wet conditions can result in deteriorated handling.

## TIRE MOUNTING GUIDELINES

Only specially trained persons should mount tires. Improper mounting can cause tire explosion and serious injury. Never exceed the tire manufacturer's recommended maximum pressure when seating any tire.

## SIGNS THAT YOU COULD NEED NEW DIRT BIKE TIRES

The primary thing to look at with tires is the tread. Is it worn too short? Are the knobs rounded? Are they showing other signs of wear (like cracks)? If so, it might be time for new tires. Worn/unworn tire combinations and worn tires used in wet conditions can result in deteriorated handling.

## MOTORCYCLE TIRE MEASUREMENTS

Motorcycle tires are commonly measured in millimeters by Width / Aspect Ratio x Rim Diameter (inches)



EXAMPLE:

WIDTH / ASPECT RATIO - RIM DIAMETER

160/60R-17

(69W)

CONSTRUCTION

R=RADIAL, B=BIAS BELTED, NO LETTER=BIASED

### LOAD INDEX

This number represents the load carrying maximum capacity at maximum pressure.

**Example:**

58 = 520 lbs.

69 = 720 lbs.

See chart in the tire's description on our website for information for that particular tire's load ratings

### SPEED RATING

This letter represents the maximum speed under recommended load capacity

**Example:**

S = 112 mph

W = 168 mph

See the chart in the tire's description on our website for information for that particular tire's speed ratings

Note: A letter "Z" indicates maximum speed capability in excess of 149 mph and is usually displayed after the aspect ratio.

## TERM DEFINITIONS:

**Aspect ratio:** The aspect ratio is the height of the sidewall in relation to the width of the tread. For example, if you have a tire that is 160/60R-17, the aspect ratio is 60% of the tread width (the first number in the tire size), creating a 96-millimeter sidewall height. **Note to remember:** Width is in millimeters, aspect ratio is a percentage, and rim diameter is in inches.

## DIRT BIKE TIRE MEASUREMENTS

Motorcycle tires are commonly measured in millimeters by Width / Aspect Ratio x Rim Diameter (inches)



EXAMPLE:

WIDTH / ASPECT RATIO x RIM DIAMETER

110/90x19

## TERM DEFINITIONS:

**Aspect Ratio:** The aspect ratio is the height of the sidewall in relation to the width of the tread. For example, on the tire size above, the aspect ratio is 90% of the tread width (the first number in the tire size), creating a 99 millimeter sidewall height.

## TIRE CONSTRUCTION

**Radial:** Radial constructed tires utilize both ply and breaker (or belt) cords. The ply cords extend from bead to bead at approximately a 90-degree angle to the centerline of the tire. The breaker (or belt) cords are placed on top of the ply cords across the width of the tire.

**Advantages:** Adding breaker (or belt) cords results in a stiffer carcass which helps provide a longer tread and tire life, better steering control and handling, overall smoother ride and comfort, and higher tread puncture resistance.



**Bias belted:** A bias-belted tire utilizes ply cords that extend diagonally from bead to bead (relative to the centerline) and a stabilizer belt across the width of the tire.

**Advantages:** This type of tire provides a smooth ride that is similar to the bias tire but lessens rolling resistance due to the belt's increasing tread stiffness. The plies and belts are at different angles, which improves performance compared to non-belted bias tires.



**Bias:** Bias tires typically have the ply cords that extend diagonally from bead to bead at a range of 30 to 60-degree angles from the centerline. Each successive ply is laid at an opposing angle, forming a criss-cross pattern.

**Advantages:** The design allows the entire tire body to flex easily, giving a comfortable ride on rough surfaces.



## WARNING

The charts and info on this page do not imply interchangeability. Consult your machine's manual to determine correct replacements, clearances, compatibility and stability, load-bearing capacity, speed rating, radial vs. non-radial recommendations and front-to-rear tire matching. **Incorrect selection can result in tire failure or loss of control with serious injury or death.**

# MOTORCYCLE TIRE CONVERSION CHARTS

## MOTORCYCLE TIRE CONVERSION CHARTS

### FRONT:

METRIC	ALPHA	INCHES
80/90 >	MH90 >	2.50/2.75
90/90 >	MJ90 >	2.75/3.00
100/90 >	MM90 >	3.25/3.50
110/90 >	MN90 >	3.75/4.00
120/80 >		> 4.25/4.50
120/90 >	MR90 >	4.25/4.50
130/90 >	MT90 >	5.00/5.10

### REAR:

METRIC	ALPHA	INCHES
110/90 >	MP85 >	4.00/4.75
120/90 >	MR90 >	4.50/4.75
130/80 >		> 5.00/5.10
110/90 >	MN90 >	3.75/4.00
130/90 >	MT90 >	5.00/5.10
140/80 >		> 5.50/6.00
140/90 >	MU90 >	5.50/6.00
150/80 >	MV85 >	6.00/6.25
150/90 >	MV85 >	6.00/6.25
160/80 >		> 6.80/7.00
180/55 >		> 7.00/7.25
200/60 >		> 7.90/8.00
230/50 >		> 9.50

## DIRT BIKE TIRE CONVERSION CHARTS

METRIC	INCHES
70/100x17 >	2.75x17
80/100x21 >	3.00x21
90/100x14 >	4.10x14
90/100x16 >	4.10x16
100/100x18 >	4.10x18
110/100x18 >	4.50x18
120/100x18 >	5.10x18
130/80x18 >	5.30x18
140/80x18 >	5.60x18
100/90x19 >	4.10x19
110/90x19 >	4.50x19
120/90x19 >	5.10x19

# MOTORCYCLE TIRE SPEED & LOAD RATINGS

## MOTORCYCLE LOAD RATINGS

CODE	POUNDS	KILOGRAMS	CODE	POUNDS	KILOGRAMS
33 >	254 lbs >	115 kg	62 >	584 lbs >	265 kg
34 >	260 lbs >	117 kg	63 >	600 lbs >	272 kg
35 >	267 lbs >	121 kg	64 >	617 lbs >	279 kg
36 >	276 lbs >	125 kg	65 >	639 lbs >	289 kg
37 >	282 lbs >	128 kg	66 >	661 lbs >	299 kg
38 >	291 lbs >	132 kg	67 >	677 lbs >	307 kg
39 >	300 lbs >	136 kg	68 >	694 lbs >	314 kg
40 >	309 lbs >	140 kg	69 >	716 lbs >	324 kg
41 >	320 lbs >	145 kg	70 >	739 lbs >	335 kg
42 >	331 lbs >	150 kg	71 >	761 lbs >	345 kg
43 >	342 lbs >	155 kg	72 >	783 lbs >	355 kg
44 >	353 lbs >	160 kg	73 >	805 lbs >	365 kg
45 >	364 lbs >	165 kg	74 >	827 lbs >	375 kg
46 >	375 lbs >	170 kg	75 >	853 lbs >	387 kg
47 >	386 lbs >	175 kg	76 >	882 lbs >	400 kg
48 >	397 lbs >	180 kg	77 >	908 lbs >	412 kg
49 >	408 lbs >	185 kg	78 >	937 lbs >	425 kg
50 >	419 lbs >	190 kg	79 >	963 lbs >	437 kg
51 >	430 lbs >	195 kg	80 >	992 lbs >	450 kg
52 >	441 lbs >	200 kg	81 >	1,019 lbs >	462 kg
53 >	454 lbs >	206 kg	82 >	1,047 lbs >	475 kg
54 >	467 lbs >	212 kg	83 >	1,074 lbs >	487 kg
55 >	481 lbs >	218 kg	84 >	1,102 lbs >	500 kg
56 >	494 lbs >	224 kg	85 >	1,135 lbs >	515 kg
57 >	507 lbs >	230 kg	86 >	1,168 lbs >	530 kg
58 >	520 lbs >	236 kg	87 >	1,201 lbs >	545 kg
59 >	536 lbs >	243 kg	88 >	1,235 lbs >	560 kg
60 >	551 lbs >	250 kg	89 >	1,279 lbs >	580 kg
61 >	567 lbs >	257 kg	90 >	1,323 lbs >	600 kg

## MOTORCYCLE TIRE SPEED RATINGS

Rating	MPH	Km/H
J >	62 mph >	100 Km/H
K >	68 mph >	110 Km/H
L >	74 mph >	120 Km/H
M >	81 mph >	130 Km/H
N >	87 mph >	140 Km/H
P >	94 mph >	150 Km/H
Q >	100 mph >	160 Km/H
R >	106 mph >	170 Km/H
S >	112 mph >	180 Km/H
T >	118 mph >	190 Km/H
U >	124 mph >	200 Km/H
H >	130 mph >	210 Km/H
V or VB >	149+ mph >	240 Km/H
Z or ZR >	149+ mph >	240+ Km/H
W >	168 mph >	270 Km/H
Y >	186 mph >	300 Km/H

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