



2020 Indian Challenger Service Manual

FOREWORD

The information printed within this publication includes the latest product information at time of print. The most recent version of this Service Manual is available in electronic format at www.polarisdealers.com.

This Service Manual is designed primarily for use by certified Indian Motorcycle Master Service Dealer® technicians in a properly equipped shop and should be kept available for reference. All references to left and right side of the vehicle are from the operator's perspective when seated in a normal riding position.

Some procedures outlined in this manual require a sound knowledge of mechanical theory, tool use, and shop procedures in order to perform the work safely and correctly. Technicians should read the text and be familiar with the service procedures before starting any repair. Certain procedures require the use of special tools. Use only the proper tools as specified. If you have any doubt as to your ability to perform any of the procedures outlined in this Service Manual, contact an authorized dealer for service.

We value your input and appreciate any assistance you can provide in helping make these publications more useful. Please provide any feedback you may have regarding this manual. Authorized dealers can submit feedback using 'Ask Polaris'. Click on 'Ask Polaris', and then click on 'Service Manual / Service Literature Question'.

Consumers, please provide your feedback in writing to: Indian Motorcycle Company ATTN: Service Publications Department, 2100 Hwy 55, Medina, MN 55340.

Publication Printed 2019 (PN 9930570 R02)

© Copyright 2019 All information contained within this publication is based on the latest product information at the time of publication. Due to constant improvements in the design and quality of production components, some minor discrepancies may result between the actual vehicle and the information presented in this publication. Depictions and/or procedures in this publication are intended for reference use only. No liability can be accepted for omissions or inaccuracies. Any reprinting or reuse of the depictions and/or procedures contained within, whether whole or in part, is expressly prohibited. Printed in U.S.A.

SAFETY WARNINGS

The following signal words and symbols appear throughout this manual and on the vehicle. Your safety is involved when these words and symbols are used. Become familiar with their meanings before reading the manual.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

SAFETY ALERT WARNING indicates a hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

SAFETY ALERT CAUTION indicates a hazardous situation which, if not avoided, **COULD** result in minor to moderate injury.

NOTICE

NOTICE provides key information by clarifying instructions.

IMPORTANT

IMPORTANT provides key reminders during disassembly, assembly and inspection of components.

TRADEMARKS

INDIAN MOTORCYCLE ACKNOWLEDGES THE FOLLOWING PRODUCTS THAT MAY BE MENTIONED IN THIS MANUAL:

LOCTITE®, is a registered trademark of the Henkel Corporation.

DUNLOP®, is a registered trademark of the Dunlop Tire Corporation.

STA-BIL®, is a registered trademark of Gold Eagle.

NYOGEL™, is a trademark of Gold Eagle.

FLUKE®, is registered trademark of the Fluke Corporation.

XM®, is a registered trademark of XM® Satellite Radio, Inc.

Torx®, is a registered Trademark of Textron.

Garmin®, is a registered trademark of Garmin, Ltd.

Some Indian Motorcycle factory publications can be downloaded from www.polarisindustries.com, purchased from www.purepolaris.com or by contacting the nearest Indian Motorcycle dealer.

REVISION INDEX

| REV | DATE | CHANGES |
|-----|------------|------------------------------|
| R01 | 12/26/2019 | – |
| R02 | 1/23/2020 | Update VCM 1 fastener torque |

FEEDBACK FORM - SERVICE MANUAL (9930570)

A feedback form has been created for the technician or consumer to provide Indian Motorcycle with an overall satisfaction rating for this service manual, provide comments on your experience or upload pictures/video. This feedback form is viewable on a mobile device by scanning the QR code or by clicking **HERE** if viewing this document electronically.



2020 Indian Challenger

Service Manual

Chapter Summary

CHAPTER 1 : GENERAL / SPECIFICATIONS

CHAPTER 2 : MAINTENANCE

CHAPTER 3 : ENGINE / COOLING / EXHAUST

CHAPTER 4 : FUEL DELIVERY / EFI

CHAPTER 5 : CLUTCH / PRIMARY / SHIFT

CHAPTER 6 : TRANSMISSION / CRANKSHAFT

CHAPTER 7 : FRAME / BODY

CHAPTER 8 : STEERING / SUSPENSION

CHAPTER 9 : BRAKES

CHAPTER 10 : ELECTRICAL

CHAPTER 1

GENERAL / SPECIFICATIONS

| | |
|--|------|
| VEHICLE INFORMATION | 1.2 |
| MODEL NUMBER DESIGNATION | 1.2 |
| VEHICLE IDENTIFICATION NUMBER (VIN) DESIGNATION..... | 1.2 |
| ENGINE NUMBER LOCATION | 1.3 |
| VIN LOCATION | 1.3 |
| MANUFACTURER LABEL | 1.3 |
| TIRE INFORMATION LABEL | 1.3 |
| GENERAL SPECIFICATIONS | 1.4 |
| 2020 MODEL SPECIFICATIONS | 1.4 |
| VEHICLE LOADING | 1.7 |
| GROSS VEHICLE WEIGHT RATING (GVWR) | 1.7 |
| PUBLICATIONS & TECHNICAL LITERATURE..... | 1.8 |
| PUBLICATIONS PART NUMBERS..... | 1.8 |
| EMMISSIONS INFORMATION | 1.9 |
| EMISSION CONTROL SYSTEMS | 1.9 |
| EMISSION SOURCES | 1.9 |
| EXHAUST EMISSION CONTROL | 1.9 |
| NOISE EMISSION CONTROL | 1.9 |
| CRANKCASE EMISSION CONTROL | 1.9 |
| EVAPORATIVE EMISSION CONTROL (CALIFORNIA AND INTERNATIONAL MODELS) | 1.9 |
| SPECIAL TOOLS..... | 1.10 |
| USING SPECIAL TOOLS | 1.10 |
| TOOL ORDERING INFORMATION..... | 1.10 |
| SPECIAL TOOLS INDEX | 1.11 |
| REFERENCE | 1.14 |
| MASTER TORQUE TABLE..... | 1.14 |
| SAE TAP DRILL SIZES..... | 1.21 |
| METRIC TAP DRILL SIZES | 1.21 |
| DECIMAL EQUIVALENTS..... | 1.22 |
| FAHRENHEIT TO CELSIUS..... | 1.23 |
| MEASUREMENT CONVERSION CHART | 1.24 |

GENERAL / SPECIFICATIONS

VEHICLE INFORMATION MODEL NUMBER DESIGNATION

Example: N20LCACCA1

| GRP | MY | TYPE | MODEL | LINE | DISP | NET BRAKE HP | MARKET CONFIG | COLOR |
|---|----------------------|----------------------------|--------------|---|---------------------------|--------------------|--|--|
| 1st digit | 2nd/ 3rd digit | 4th digit* | 5th digit* | 6th digit* | 7th digit* | 8th digit | 9th digit** | 10th digit |
| N= Indian Motor-cycle | 20= 2020 | L= Touring (Liquid Cooled) | C=CMF Bagger | A=Premium (w/ ABS) B=Standard (w/ ABS) D=Dark (w/ ABS) E=Limited Edition (w/ABS) | C = 1768cc (108ci) V-Twin | C = 120 HP (89 kW) | A = 49 State (49S) B = 50 State (50S) C = Canadian (CAN) E = EU (WVTA) K = Brazil CKD (BRZ) X = China (XNA) | A = Thunder Black G = Willow Green / Cream H = Black Smoke L = Bronze Smoke R = Indian Red T = Brilliant Blue W = Pearl White X = Steel Gray Z = Unpainted 1= Thunder Black Pearl 2= Deep Water Metallic 3= Indian Red Pearl 4= Sandstone Smoke 5=Red Blaze |
| * = digits that would transfer to 17 digit VIN and are used in digits 4–8 respectively. ** = 9th digit will be used on color / featured versions of models (not including base). First 3 digits and 9th digit are used in model number only. They are not used with the 17 digit VIN. | | | | | | | | |

VEHICLE IDENTIFICATION NUMBER (VIN) DESIGNATION

Example: 56KTCAA0E3000024

| World Mfg. ID | | | Vehicle Descriptors | | | | | | Vehicle Identifiers | | | | | | | |
|------------------------|---|---|---------------------|------|------|----|--------|-------------|---------------------|-----|-----------------------|----|----|----|----|----|
| | | | Chassis | Type | Disp | HP | Series | Check Digit | MY* | Mfg | Individual Serial No. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 5 | 6 | K | C | C | A | A | A | 0 | E | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| * Model Year: L = 2020 | | | | | | | | | | | | | | | | |