

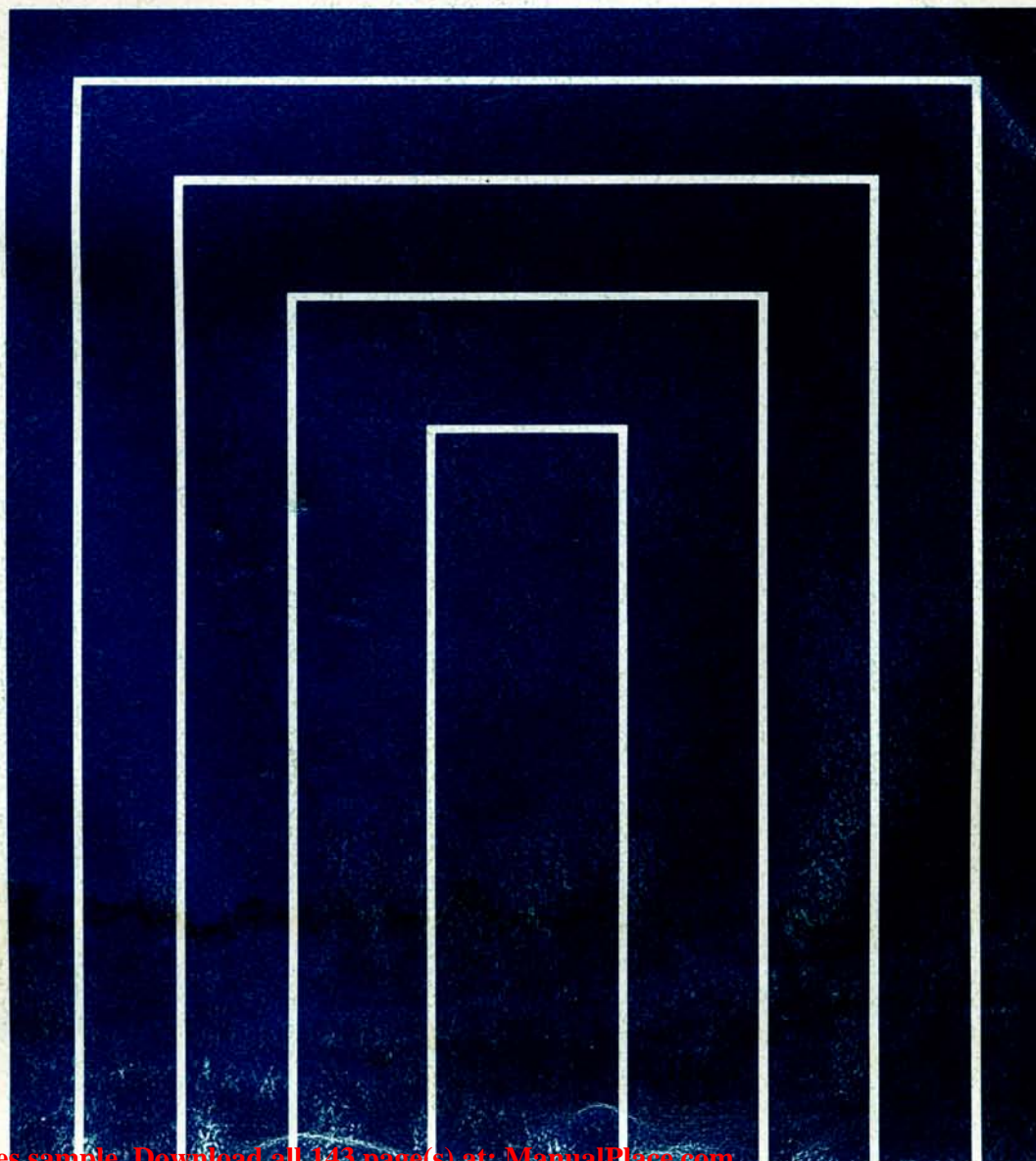


A442F

**AUTOMATIC
TRANSMISSION**

REPAIR MANUAL

Aug., 1992



FOREWORD

This repair manual has been prepared to provide information covering general service repairs for the Automatic Transmission A442F.

Applicable models: FZJ80, HDJ80 series

For the service specifications and repair procedure of the above model other than those listed in this manual, refer to the following manuals.

Manual Name	Pub. No.
• Land Cruiser (Hardtop, Canvastop and Station Wagon) Chassis and Body Repair Manual Supplement	RM315E
• A442F Automatic Transmission Hydraulic Circuit Diagram	ATH031F

All information contained in this manual is the most up-to-date at the time of publication. However, specifications and procedures are subject to change without notice.

TOYOTA MOTOR CORPORATION

**INTRODUCTION
AUTOMATIC TRANSMISSION**

IN

AT

INTRODUCTION

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HOW TO USE THIS MANUAL

JN002-0C

To assist you in finding your way through the manual, the Section Title and major heading are given at the top of every page.

IN

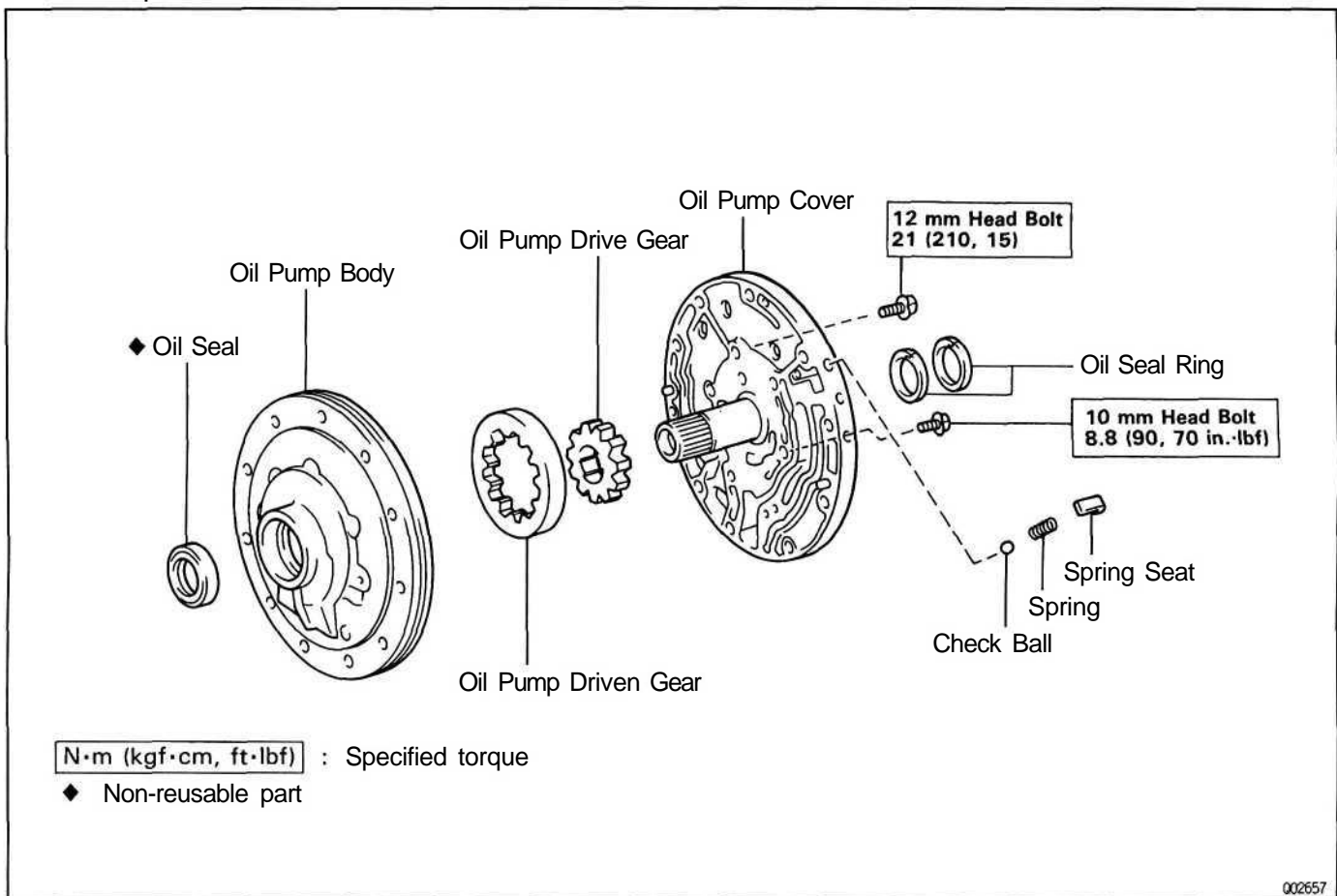
PREPARATION

Preparation lists the SST (Special Service Tools), recommended tools, equipment, lubricant and SSM (Special Service Materials) which should be prepared before beginning the operation and explains the purpose of each one.

REPAIR PROCEDURES

Most repair operations begin with an overview illustration. It identifies the components and shows how the parts fit together.

Example:



The procedures are presented in a step—by—step format:

- The illustration shows what to do and where to do it.
- The task heading tells what to do.
- The detailed text tells how to perform the task and gives other information such as specifications and warnings.

Example:

IN

Task heading : what to do

21. CHECK PISTON STROKE OF OVERDRIVE BRAKE

(a) Place SST and a dial indicator onto the overdrive brake piston as shown in the illustration.

SST 09350-30020 (09350-06120)

Set part No. *Component part No.*

Detailed text: how to do task

(b) Measure the stroke applying and releasing the compressed air (392 – 785 kPa, 4 – 8 kgf/cm² or 57 – 114 psi) as shown in the illustration.

Piston stroke: 1.40 – 1.70 mm (0.0551 – 0.0669 in.)

Specification

V00081

Illustration: what to do and where

This format provides the experienced technician with a FAST TRACK to the information needed. The upper case task heading can be read at a glance when necessary, and the text below it provides detailed information. Important specifications and warnings always stand out in bold type.

REFERENCES

References have been kept to a minimum. However, when they are required you are given the page to refer to.

SPECIFICATIONS

Specifications are presented in bold type throughout the text where needed. You never have to leave the procedure to look up your specifications. They are also found at the back of AT section, for quick reference.

CAUTIONS, NOTICES, HINTS:

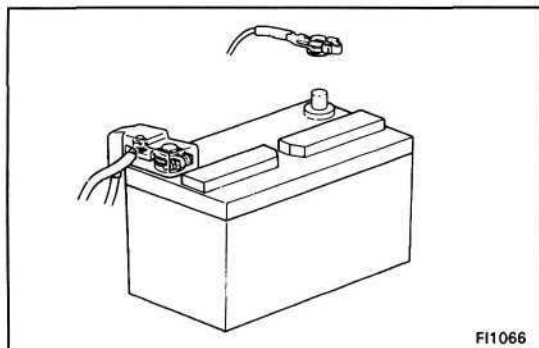
- CAUTIONS are presented in bold type, and indicate there is a possibility of injury to you or other people.
- NOTICES are also presented in bold type, and indicate the possibility of damage to the components being repaired.
- HINTS are separated from the text but do not appear in bold. They provide additional information to help you perform the repair efficiently.

SI UNIT

The UNITS given in this manual are primarily expressed according to with the SI UNIT (International System of Unit), and alternately expressed in the metric system and in the English System.

Example:

Torque: 30 Nm (310 kgf-cm, 22 ftlbf)

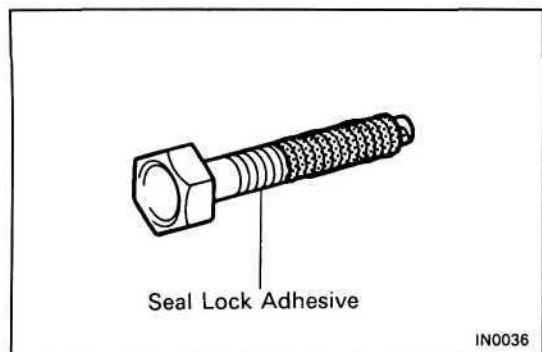


GENERAL REPAIR INSTRUCTIONS

IN01G-02

1. Use fender, seat and floor covers to keep the vehicle clean and prevent damage.
2. During disassembly, keep parts in the appropriate order to facilitate reassembly.
3. Observe the following:
 - (a) Before performing electrical work, disconnect the negative cable from the battery terminal.
 - (b) If it is necessary to disconnect the battery for inspection or repair, always disconnect the cable from the negative (—) terminal which is grounded to the vehicle body.
 - (c) To prevent damage to the battery terminal post, loosen the terminal nut and raise the cable straight up without twisting or prying it.
 - (d) Clean the battery terminal posts and cable terminals with a clean shop rag. Do not scrape them with a file or other abrasive objects.
 - (e) Install the cable terminal to the battery post with the nut loose, and tighten the nut after installation. Do not use a hammer to tap the terminal onto the post.
 - (f) Be sure the cover for the positive (+) terminal is properly in place.
4. Check hose and wiring connectors to make sure that they are secure and correct.
5. Non—reusable parts
 - (a) Always replace cotter pins, gaskets, O—rings and oil seals etc. with new ones.
 - (b) Non—reusable parts are indicated in the component illustrations by the "◆" symbol.

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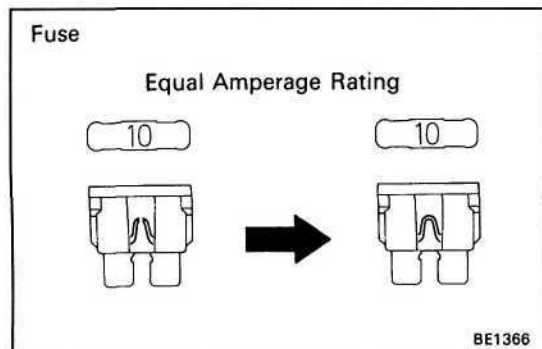


6. Precoated parts

Precoated parts are bolts and nuts, etc. that are coated with a seal lock adhesive at the factory.

 - (a) If a precoated part is retightened, loosened or caused to move in any way, it must be recoated with the specified adhesive.

- (b) When reusing precoated parts, clean off the old adhesive and dry with compressed air. Then apply the specified seal lock adhesive to the bolt, nut or threads.
 - (c) Precoated parts are indicated in the component illustrations by the "★" symbol.
7. When necessary, use a sealer on gaskets to prevent leaks.
 8. Carefully observe all specifications for bolt tightening torques. Always use a torque wrench.
 9. Use of special service tools (SST) and special service materials (SSM) may be required, depending on the nature of the repair. Be sure to use SST and SSM where specified and follow the proper work procedure. A list of SST and SSM can be found at the preparation of AT section.



10. When replacing fuses, be sure the new fuse has the correct amperage rating. DO NOT exceed the rating or use one with a lower rating.
11. Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations.
 - (a) If the vehicle is to be jacked up only at the front or rear end, be sure to block the wheels at the opposite end in order to ensure safety.
 - (b) After the vehicle is jacked up, be sure to support it on stands. It is extremely dangerous to do any work on a vehicle raised on a jack alone, even for a small job that can be finished quickly.

ABBREVIATIONS USED IN THIS MANUAL

IN01H-04

ATF	Automatic Transaxle Fluid
B ₀	Overdrive Brake
B ₂	2nd Brake
B ₃	1 st and Reverse Brake
C ₀	Overdrive Direct Clutch
C ₁	Front Clutch
C ₂	Rear Clutch
D	Disc
Ex.	Except
F	Flange
F ₀	Overdrive One-way Clutch
F ₂	No.2 One-way Clutch
MP	Multipurpose
O/D	Overdrive
P	Plate
SSM	Special Service Materials
SST	Special Service Tools
w/	with

IN