



**TOYOTA**  
**REPAIR MANUAL SUPPLEMENT**  
**FOR CHASSIS & BODY**

**CELICA4WD**

**ST205 series**

**Feb., 1994**

Pub.No. RM399E





## FOREWORD

This supplement has been prepared to provide information covering general service repairs for the chassis and body of the TOYOTA CELICA 4WD.

Applicable model: ST205 series

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

Manual Name	Pub. No.
● Celica Chassis and Body Repair Manual	RM380E
● 3S-GE Engine Repair Manual	RM396E
● 3S-GTE Engine Repair Manual Supplement	RM398E
● Celica Electrical Wiring Diagram	EWD198Y
● Celica 4WD Electrical Wiring Diagram Supplement	EWD204F

All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

**TOYOTA MOTOR CORPORATION**

NOTE: The following screen toning letters sections refer to the Celica Repair Manual for Chassis and Body (Pub. No. RM380E).

<b>INTRODUCTION</b>	<b>IN</b>
<b>CLUTCH</b>	<b>CL</b>
<b>MANUAL TRANSAXLE</b>	<b>MX</b>
<b>PROPELLER SHAFT</b>	<b>PR</b>
<b>SUSPENSION AND AXLE</b>	<b>SA</b>
<b>BRAKE SYSTEM</b>	<b>BR</b>
<b>STEERING</b>	<b>SR</b>
<b>SUPPLEMENTAL RESTRAINT SYSTEM</b>	<b>RS</b>
<b>BODY ELECTRICAL SYSTEM</b>	<b>BE</b>
<b>BODY</b>	<b>BO</b>
<b>AIR CONDITIONING SYSTEM</b>	<b>AC</b>
<b>ELECTRICAL WIRING DIAGRAMS</b>	<b>EWD</b>

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# INTRODUCTION

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IN

## HOW TO USE THIS MANUAL INDEX

IN02E-01

An INDEX is provided on the first page of each section to guide you to the item to be repaired. 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

## GENERAL DESCRIPTION

IN02G-01

At the beginning of each section, a General Description is given that pertains to all repair operations contained in that section.

Read these precautions before starting any repair task.

## TROUBLESHOOTING

IN02H-09

TROUBLESHOOTING tables are included for each system to help you diagnose the problem and find the cause. Be sure to read this before performing troubleshooting.

## PREPARATION

IN02J-01

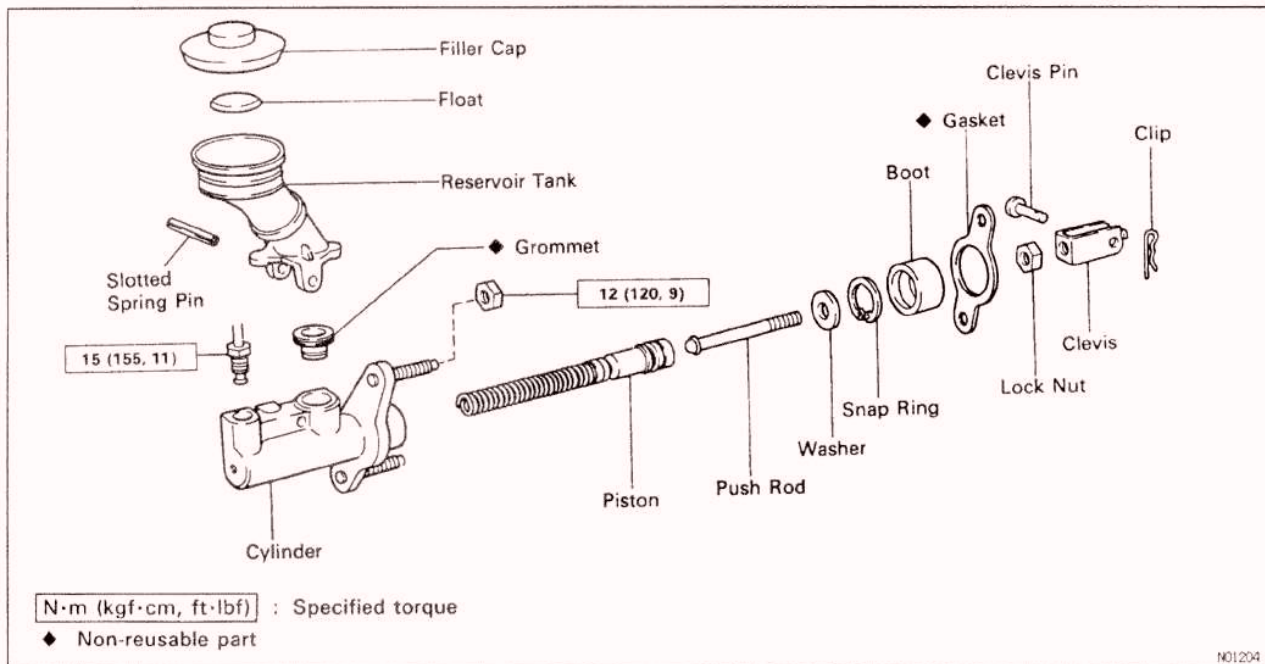
Preparation lists the SST (Special Service Tools), recommended tools, equipment, lubricant and SSM (Special Service Materials) which should be prepared before beginning the operation and explains the purpose of each one.

## REPAIR PROCEDURES

IN02K-01

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/cm<sup>2</sup> or 57 — 114 psi) as shown in the illustration.

**Piston stroke: 1.40 — 1.70 mm (0.0551 — 0.0669 in.)**  
*Specification*

V00081

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

IN02L-01

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

## SPECIFICATIONS

IN02M-01

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 end of each 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.

IN

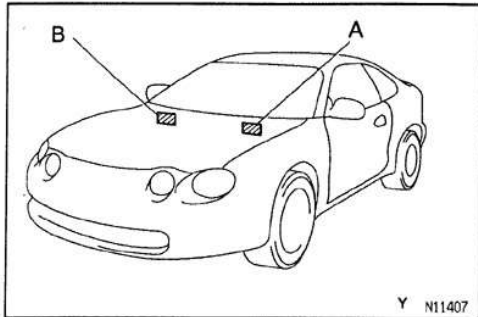
**SI UNIT**

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

**Example:**

**Torque: 30 N·m (310 kgf·cm, 22 ft·lbf)**





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## IDENTIFICATION INFORMATION

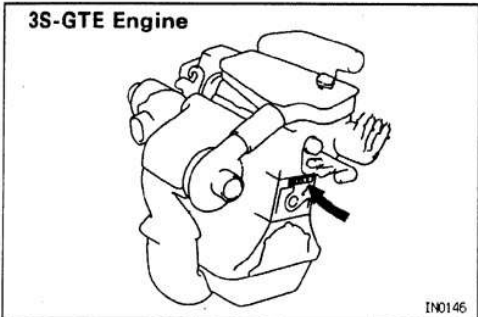
### VEHICLE IDENTIFICATION NUMBER

IN003-01

The vehicle identification number is stamped on the vehicle identification number plate and manufacturer's plate.

- A. Vehicle Identification Number Plate
- B. Manufacturer's Plate

IN



3S-GTE Engine

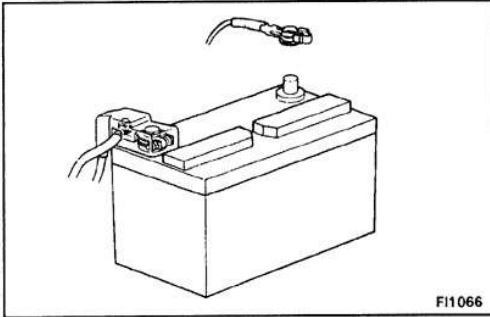
IN0146

## ENGINE SERIAL NUMBER

IN04E-01

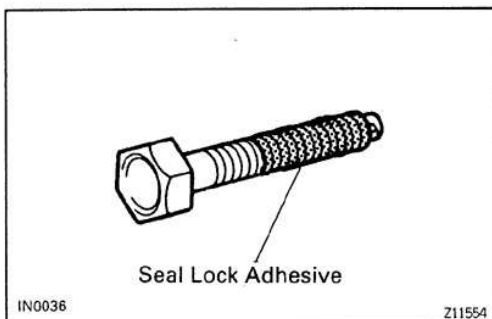
The engine serial number is stamped on the engine block as shown.

IN



## GENERAL REPAIR INSTRUCTIONS

1. Use fender, seat and floor covers to keep the vehicle <sup>IN045-02</sup> 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 terminal cable from the battery.
  - (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.



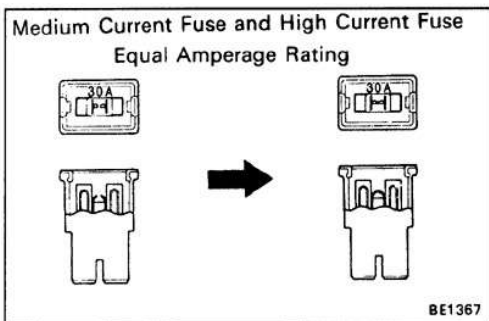
6. Precoated parts
 

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 in the preparation part at the front of each section in this manual.

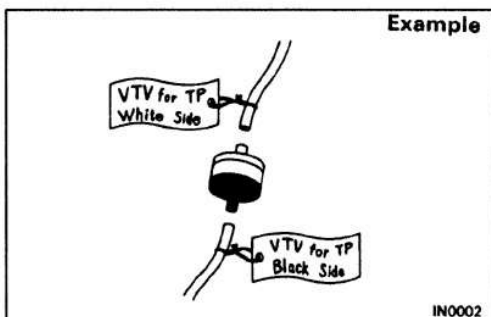
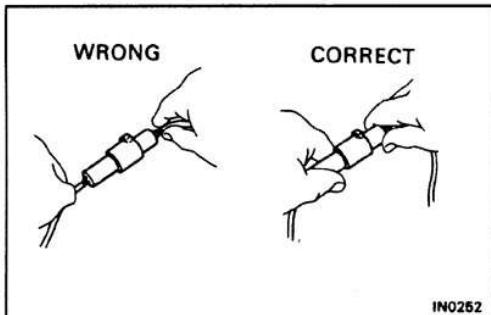
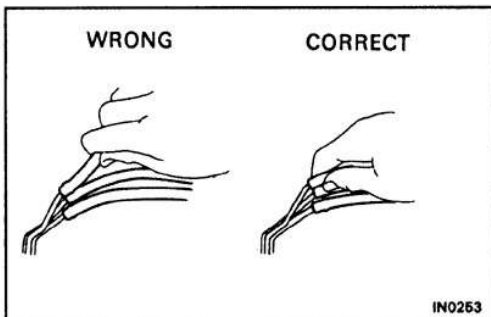
IN



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.

Illustration	Symbol	Part Name	Abbreviation
<p>BE5594</p>	<p>IN0365</p>	FUSE	FUSE
<p>BE5595</p>	<p>IN0366</p>	MEDIUM CURRENT FUSE	M-FUSE
<p>BE5596</p>	<p>IN0367</p>	HIGH CURRENT FUSE	H-FUSE
<p>BE5597</p>	<p>IN0367</p>	FUSIBLE LINK	FL
<p>BE5598</p>	<p>IN0368</p>	CIRCUIT BREAKER	CB

11. Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations (See page IN – 18).
  - (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.
12. Observe the following precautions to avoid damage to the following parts:
  - (a) Do not open the cover or case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)



- (b) To disconnect vacuum hoses, pull on the end, not the middle of the hose.
  - (c) To pull apart electrical connectors, pull on the connector itself, not the wires.
  - (d) Be careful not to drop electrical components, such as sensors or relays. If they are dropped on a hard floor, they should be replaced and not reused.
  - (e) When steam cleaning an engine, protect the distributor, air filter, and VCV from water.
  - (f) Never use an impact wrench to remove or install temperature switches or temperature sensors.
  - (g) When checking continuity at the wire connector, insert the tester probe carefully to prevent terminals from bending.
  - (h) When using a vacuum gauge, never force the hose onto a connector that is too large. Use a step-down adapter instead. Once the hose has been stretched, it may leak.
13. Tag hoses before disconnecting them:
    - (a) When disconnecting vacuum hoses, use tags to identify how they should be reconnected.
    - (b) After completing a job, double check that the vacuum hoses are properly connected. A label under the hood shows the proper layout.

14. Unless otherwise stated, all resistance is measured at an ambient temperature of 20°C (68°F). Because the resistance may be outside specifications if measured at high temperatures immediately after the vehicle has been running, measurements should be made when the engine has cooled down.

**IN**

## PRECAUTION FOR VEHICLES EQUIPPED WITH SRS AIRBAG

IN000-04

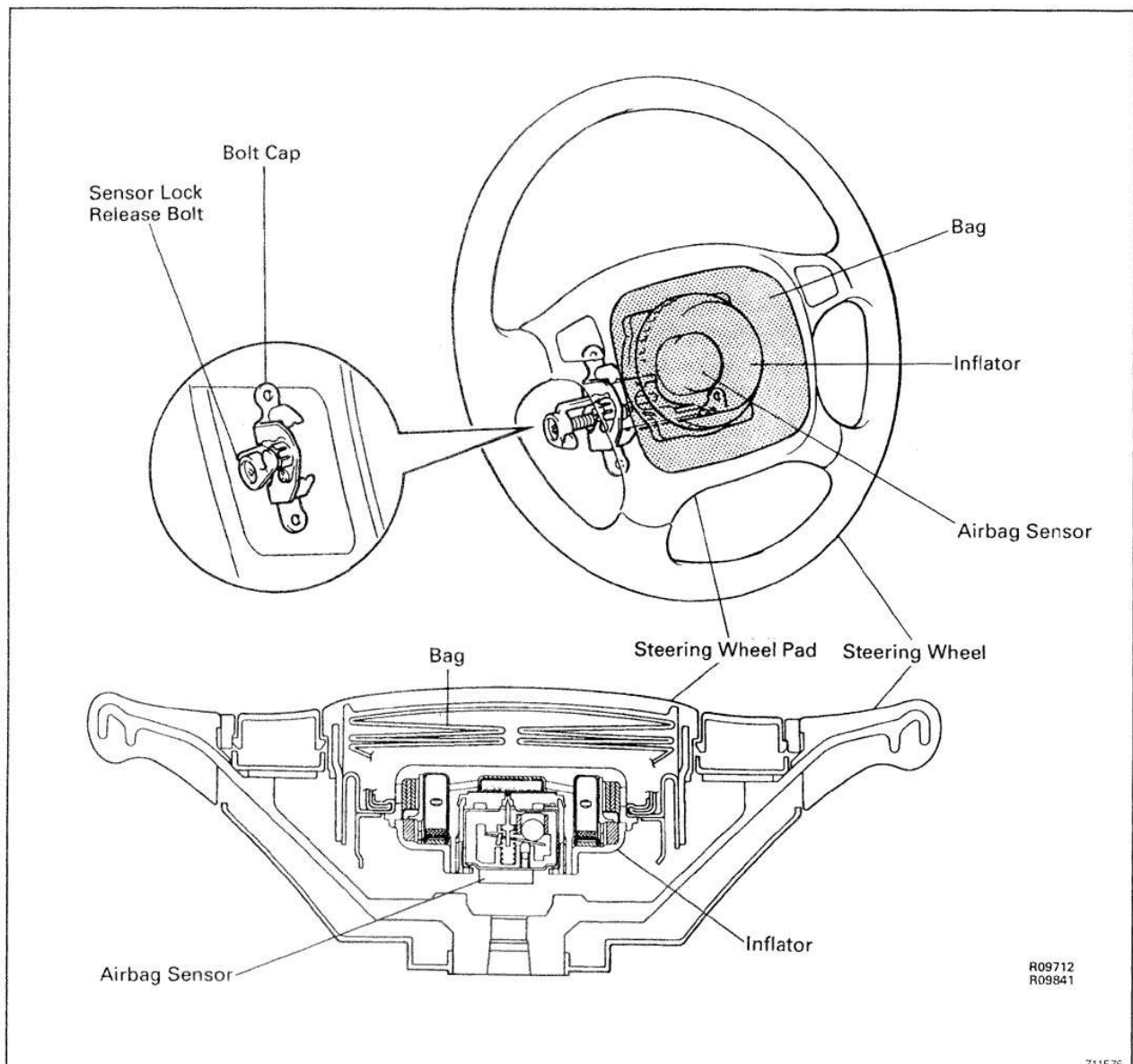
The TOYOTA CELICA is equipped with an SRS (Supplemental Restraint System) airbag as an option.

Failure to carry out service operations in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident.

Further, if a mistake is made in servicing the SRS, it is possible the SRS may fail to operate when required.

Before performing servicing (including removal or installation of parts, inspection or replacement), be sure to read the following items carefully, then follow the correct procedure described in this manual.

### Location of Components

R09712  
R09841

Z11576



1. Never disassemble the steering wheel pad assembly.
2. Do not subject the steering wheel pad to shocks or bring magnets close to it.
3. Do not expose the steering wheel pad to high temperatures or fire.
4. If grease, cleaner, oil or water gets on the steering wheel pad, promptly wipe it off with a dry cloth.
5. Do not drop the steering wheel pad. Never use a steering wheel pad which has been dropped.
6. Never install the steering wheel and pad in another vehicle.
7. When the steering wheel pad is removed, store it on a stable, flat place with the pad surface facing upwards. Never place anything on top of the pad.
8. When work on the vehicle will produce too strong a shock, first loosen the sensor lock release bolt until it turns freely and perform the work after sensor lock occurs.
9. Even in cases where the vehicle is in a low-impact accident where the airbag is not activated, always check the pad surface and airbag sensor part. If dents, cracks or deformation is visible, replace the SRS with a new assembly.
10. When disposing of the vehicle or steering wheel, always deploy the SRS first.
11. The deployed inflator inside the steering wheel pad is hot, so dispose of it after it has naturally cooled down to ambient temperature. Never apply water to cool it down.

## WHEN SERVICING ALL — TRAC/4WD VEHICLES

The center differential of the All — Trac/4WD Celica is equipped with the viscous coupling type LSD.

If incorrect preparations or test procedures are used, the test will not only be unsuccessful, but may be dangerous as well.

Therefore, before beginning any such servicing or test, be sure to check the following items:

- (1) Whether wheels should be touching ground or jacked up
- (2) Transaxle gear position
- (3) Maximum testing vehicle speed
- (4) Maximum testing time

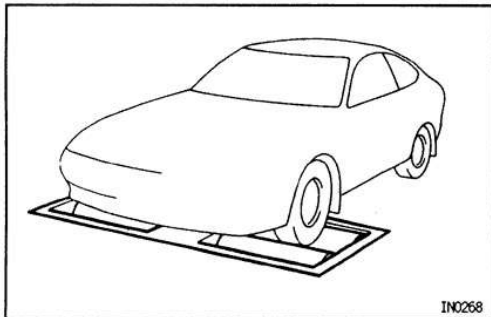
**Also be sure to observe the following cautions:**

- (1) Never accelerate or decelerate the vehicle suddenly
- (2) Observe the other cautions given for each individual test

### Before Beginning Test

This vehicle does not have a Center Diff. Lock Mode or 4WD (Normal) Mode to allow only the front or rear wheel to be rotated.

The test method for this vehicle is different to that for vehicles equipped with the Center Diff. Lock Mode or 4WD (Normal) Mode, so make sure you use the correct test method.



### Braking Force Test

#### Vehicle Speed:

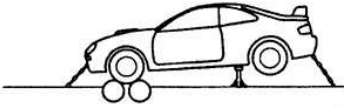
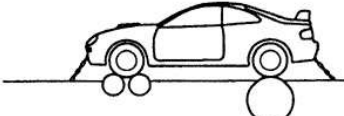
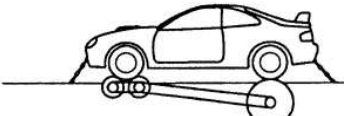
#### Below 0.5 km/h or 0.3 mph

When performing low — speed type brake tester measurements, observe the following instructions.

- (1) Position the wheels to be tested (front or rear) on the tester.
- (2) Shift the transaxle shift lever to Neutral.
- (3) Idle the engine, operate the brake booster and perform the test.

**Speedometer Test or Other Tests  
(Using Speedometer Tester or Chassis  
Dynamometer)**

IN

No.	Chassis Dynamometer Type	Vehicle Condition	Vehicle Speed and Test Time
1	2-Wheel Chassis Dynamometer	 <p style="text-align: right; margin-right: 10px;">N11385</p>	* Low speed (50km/h or less) and 1minute or less
2	4-Wheel Free Chassis Dynamometer	 <p style="text-align: right; margin-right: 10px;">N11386</p>	* Low speed (50km/h or less) and 1minute or less
3	4-Wheel Driven Chassis Dynamometer	 <p style="text-align: right; margin-right: 10px;">N11387</p>	No restriction on vehicle speed or duration of test

\* This is to avoid damaging the center viscous coupling.

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V05528

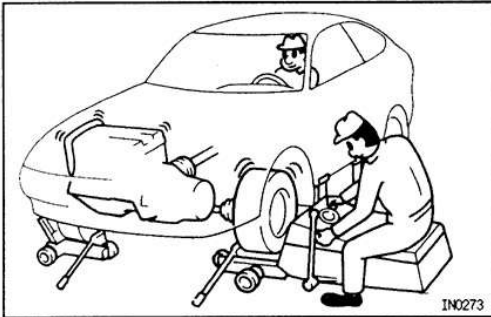
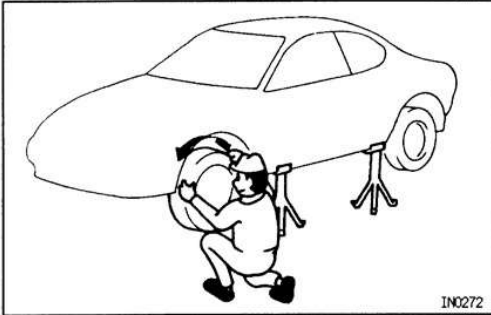
**NOTICE:**

1. **Confirm that the vehicle is securely immobilised.**
2. **Never operate the clutch or brakes suddenly, suddenly drive the wheels, or suddenly decelerate.**

IN

## On—Vehicle Wheel Balancing

When doing on—vehicle wheel balancing on a full—time 4WD vehicle, to prevent the wheels from rotating at different speeds in different directions from each other (which could damage the center differential), always be sure to observe the following precautions:

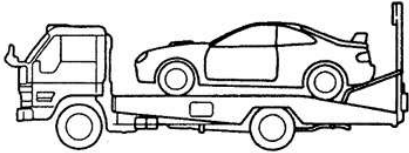
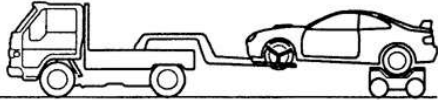
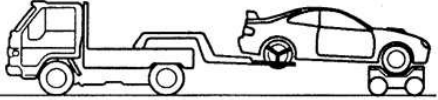
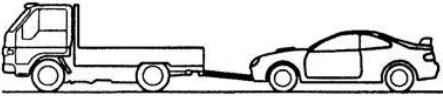


- (1) All 4 wheels should be jacked up, clearing the ground completely.
  - (2) The parking brake lever should be fully released.
  - (3) None of the brakes should be allowed to drag.
  - (4) The wheels should be driven with both the engine and the wheel balancer.
- HINT: When doing this, be careful of the other wheels, which will rotate at the same time.
- (5) Avoid sudden acceleration, deceleration and braking.
  - (6) Carry out the wheel balancing with the transaxle in 3rd or 4th gear.

IN

**WHEN TOWING ALL – TRAC/4WD VEHICLES**

1. Use one of the methods shown below to tow the vehicle.
2. When there is trouble with the chassis and drive train, use method ① (flat bed truck)
3. Recommended Method: No. ①, ②  
Emergency Method: No. ③

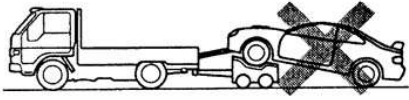
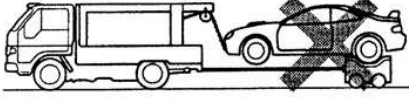
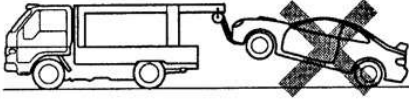
Towing Method \ Conditions	Parking Brake	Transaxle Shift Lever Position
① Flat Bed Truck  <small>N11381</small>	Applied	Any Position
② Wheel Lift Type Truck From Front  From Rear  <small>N11382 N11383</small>	Applied	Any Position
③ Towing with a Rope  <small>N11384</small>	Released	Neutral

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**NOTICE: Do not use any towing method other than those shown above.**

For example, the towing methods shown below are dangerous or will damage the vehicle, so do not use them.

IN

<p style="text-align: center;">NO</p>  <p style="text-align: right;">N11378</p>	<ul style="list-style-type: none"> <li>• During towing with this towing method, either from the front or rear, there is a danger of the drivetrain heating up and causing breakdown, or of the front wheels flying off the dolly.</li> <li>• Never perform towing using a method where the lifted-up wheel cannot rotate.</li> </ul>
<p style="text-align: center;">NO</p>  <p style="text-align: right;">N11379</p>	<ul style="list-style-type: none"> <li>• Do not perform sling type towing, either from the front or rear, as this method causes damage to the bumper, engine undercover, suspension lower arm bushing and the air conditioning condenser during towing.</li> </ul>
<p style="text-align: center;">NO</p>  <p style="text-align: right;">N11380</p>	

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IN008-01

## FOR VEHICLES EQUIPPED WITH A CATALYTIC CONVERTER

**CAUTION:** If large amounts of unburned gasoline flow into the converter, it may overheat and create a fire hazard. To prevent this, observe the following precautions and explain them to your customer.

1. **Use only unleaded gasoline.**
2. **Avoid prolonged idling.**  
Avoid running the engine at idle speed for more than 20 minutes.
3. **Avoid spark jump test.**
  - (a) Perform spark jump test only when absolutely necessary. Perform this test as rapidly as possible.
  - (b) While testing, never race the engine.
4. **Avoid prolonged engine compression measurement.**  
Engine compression tests must be done as rapidly as possible.
5. **Do not run engine when fuel tank is nearly empty.**  
This may cause the engine to misfire and create an extra load on the converter.
6. **Avoid coasting with ignition turned off and prolonged braking.**
7. **Do not dispose of used catalyst along with parts contaminated with gasoline or oil.**