TOYOTA SERVICE BULLETIN

Group: 06 No.: 08 Date: Oct, 13

Land Cruiser 70 Series

Corrections to Repair Manual RM0584E

Please ensure these pages are distributed to all relevant staff for their information; and a copy made available for future reference, with the above repair manual.

Section	Title	Paragraph
SERVICE SPECIFICATIONS	DIFFERENTIAL	TORQUE SPECIFICATIONS (200701 - 201208)
SERVICE SPECIFICATIONS	DIFFERENTIAL	TORQUE SPECIFICATIONS (201208 -)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (for Standard)	COMPONENTS (200701 - 201208)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (for Standard)	COMPONENTS (201208 -)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (for Standard)	INSTALLTION (200701 - 201208)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (for Standard)	INSTALLTION (201208 -)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)	COMPONENTS (200701 - 201208)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)	COMPONENTS (201208 -)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)	INSTALLTION (200701 - 201208)
DIFFERENTIAL	FRONT DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)	INSTALLTION (201208 -)

The revised pages listed above are attached.
(The corrected parts are indicated by arrows.)

This Bulletin does not cause the Flat Rate Manual to be changed.

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FRONT DIFFERENTIAL (w/ Differential lock)

Part Tightened	N*m	kgf*cm	ft.*lbf
Free wheel hub cover sub-assembly x Free wheel hub assembly	10	100	7
Free wheel hub assembly x Front axle hub	33	335	24
Dual automatic locking hub assembly x Front axle hub	55	559	40
Outer front axle shaft flange x Front axle hub	33	335	24
Flexible hose x Front disc brake caliper assembly	310	22	30
Front disc brake caliper assembly x Front axle carrier	123	1250	90
Front wheel lock nut x Steering knuckle spindle sub-assembly	64	650	47
Front wheel adjusting nut x Steering knuckle spindle sub-assembly	49	500	36
Front brake tube x Front axle carrier	14	143	10
Differential case x Front axle carrier [Corrected]	25	250	18
Differential x Propeller shaft	74	750	54
Differential case x Ring gear	97	985	71
Bearing cap x Differential carrier	85	867	63
Front differential bearing adjusting nut lock x Bearing cap	13	133	10
Differential case LH x Differential case RH	47	480	35
Drain plug	49	500	36
Filler plug	49	500	36
Straight screw x Differential carrier	22	224	16
No. 4 transfer indicator switch x Rear differential carrier	40	408	30
Shaft retainer x Differential carrier	40	408	30
No. 2 differential lock shift actuator x Differential carrier	27	275	20

FRONT DIFFERENTIAL (for Standard)

Part Tightened	N*m	kgf*cm	ft.*lbf
Free wheel hub cover sub-assembly x Free wheel hub assembly	10	100	7
Free wheel hub assembly x Front axle hub	33	335	24
Dual automatic locking hub assembly x Front axle hub	55	559	40
Outer front axle shaft flange x Front axle hub	33	335	24
Flexible hose x Front disc brake caliper assembly	310	22	30
Front disc brake caliper assembly x Front axle carrier	123	1250	90
Front wheel lock nut x Steering knuckle spindle sub-assembly	64	650	47
Front wheel adjusting nut x Steering knuckle spindle sub-assembly	49	500	36
Front brake tube x Front axle carrier	14	143	10
Differential case x Front axle carrier [Corrected]	25	250	18
Differential x Propeller shaft	74	750	54
Differential case x Ring gear	97	985	71
Bearing cap x Differential carrier	for 2 pinion: 85 for 4 pinion: 79	for 2 pinion: 867 for 4 pinion: 806	for 2 pinion: 63 for 4 pinion: 58
Differential case LH x Differential case RH	47	480	35
Front differential bearing adjusting nut lock x Bearing cap	13	133	10
Drain plug	49	500	36
Filler plug	49	500	36

TORQUE SPECIFICATIONS

(2012/08-)

REAR DIFFERENTIAL (for LSD)

Part Tightened	N*m	kgf*cm	ft.*lbf
Differential case x Rear axle carrier	72	734	53
Differential x Propeller shaft	88	897	65

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Part Tightened	N*m	kgf*cm	ft.*lbf
Differential case x Ring gear	137	1397	101
Differential bearing adjusting nut lock x Bearing cap	13	133	10
Bearing cap x Differential carrier	90	918	66
Drain plug	49	500	36
Filler plug	49	500	36
Rear axle shaft x Rear axle carrier	33	337	24
Differential case RH x Differential case LH	47	479	35

REAR DIFFERENTIAL (w/ Differential Lock)

Part Tightened	N*m	kgf*cm	ft.*lbf
Differential case x Rear axle carrier	72	734	53
Differential x Propeller shaft	88	897	65
Differential case x Ring gear	137	1397	101
Bearing cap x Differential carrier	113	1152	83
Drain plug	49	500	36
Filler plug	49	500	36
Rear axle shaft x Rear axle carrier	33	337	24
Differential cover x Differential case	58	591	43
Differential lock cylinder protector x Differential carrier	Bolt: 20 Nut: 35	Bolt: 204 Nut: 357	Bolt: 15 Nut: 26
No. 4 transfer indicator switch x Rear differential carrier	40	408	30
Rear differential lock cover x Differential carrier	18	184	13
Shift fork x Differential lock shift actuator	20	204	15
Differential lock shift actuator x Differential carrier	24	245	18

REAR DIFFERENTIAL (for Standard)

Part Tightened	N*m	kgf*cm	ft.*lbf
Differential case x Rear axle carrier	72	734	53
Differential x Propeller shaft	88	897	65
Differential case x Ring gear	137	1397	101
Differential bearing adjusting nut lock x Bearing cap	13	133	10
Bearing cap x Differential carrier	90	918	66
Drain plug	49	500	36
Filler plug	49	500	36
Rear axle shaft x Rear axle carrier	33	337	24
Differential case RH x Differential case LH	47	479	35

FRONT DIFFERENTIAL (w/ Differential lock)

Part Tightened	N*m	kgf*cm	ft.*lbf
Free wheel hub cover sub-assembly x Free wheel hub assembly	10	100	7
Free wheel hub assembly x Front axle hub	33	335	24
Dual automatic locking hub assembly x Front axle hub	55	559	40
Outer front axle shaft flange x Front axle hub	33	335	24
Flexible hose x Front disc brake caliper assembly	310	22	30
Front disc brake caliper assembly x Front axle carrier	123	1250	90
Front wheel lock nut x Steering knuckle spindle sub-assembly	64	650	47
Front wheel adjusting nut x Steering knuckle spindle sub-assembly	49	500	36
Front brake tube x Front axle carrier	14	143	10
Differential case x Front axle carrier [Corrected]	25	250	18
Differential x Propeller shaft	74	750	54
Differential case x Ring gear	97	985	71

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SERVICE SPECIFICATIONS – DIFFERENTIAL

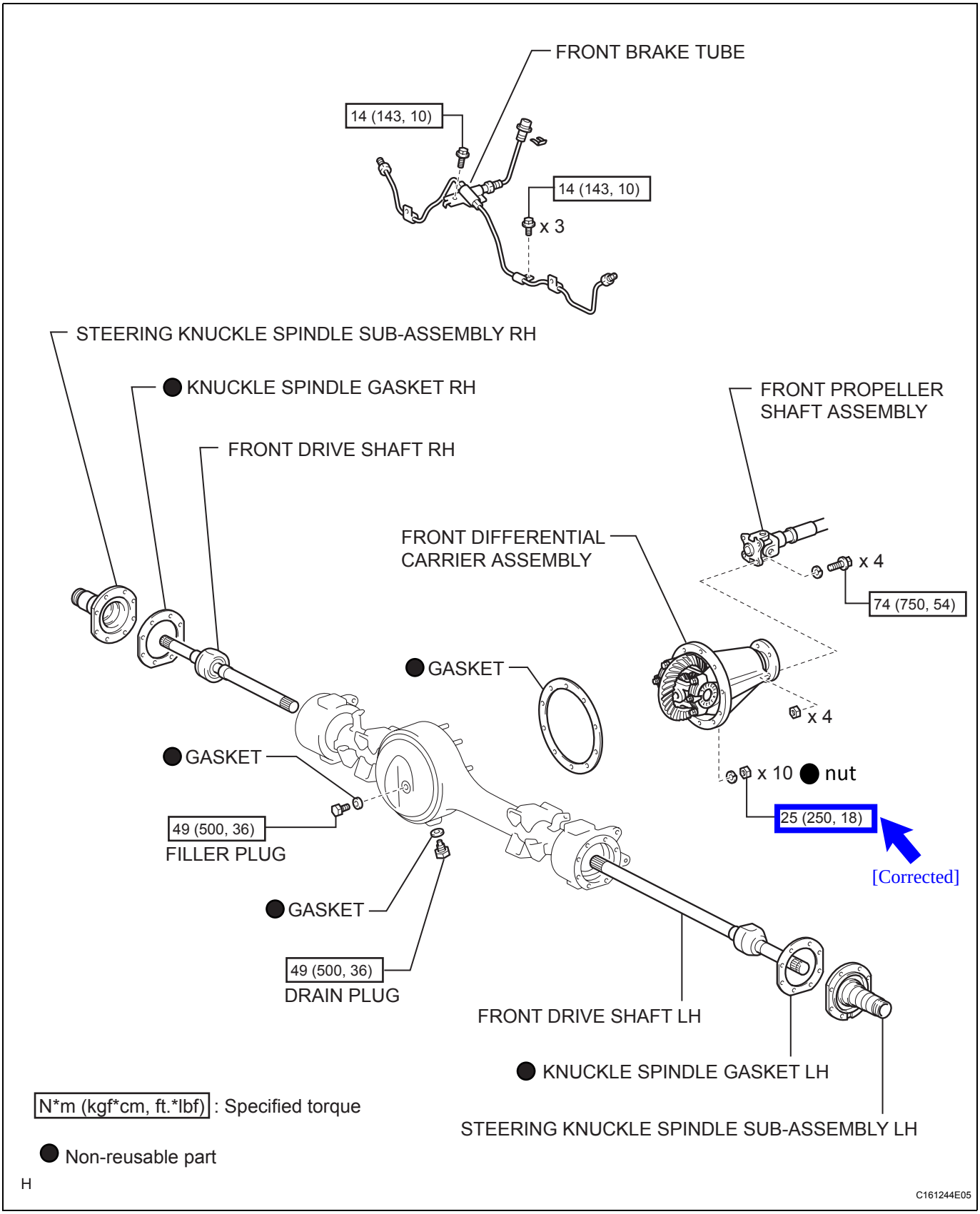
Part Tightened	N*m	kgf*cm	ft.*lbf
Bearing cap x Differential carrier	85	867	63
Front differential bearing adjusting nut lock x Bearing cap	13	133	10
Differential case LH x Differential case RH	47	480	35
Drain plug	49	500	36
Filler plug	49	500	36
Straight screw x Differential carrier	22	224	16
No. 4 transfer indicator switch x Rear differential carrier	40	408	30
Shaft retainer x Differential carrier	40	408	30
No. 2 differential lock shift actuator x Differential carrier	27	275	20
Front brake tube x Front flexible hose	15	155	11
Front brake tube bolt	14	143	10

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FRONT DIFFERENTIAL (for Standard)

Part Tightened	N*m	kgf*cm	ft.*lbf
Free wheel hub cover sub-assembly x Free wheel hub assembly	10	100	7
Free wheel hub assembly x Front axle hub	33	335	24
Dual automatic locking hub assembly x Front axle hub	55	559	40
Outer front axle shaft flange x Front axle hub	33	335	24
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Front differential bearing adjusting nut lock x Bearing cap	13	133	10
Drain plug	49	500	36
Filler plug	49	500	36
Front brake tube x Front flexible hose	15	155	11
Front brake tube bolt	14	143	10

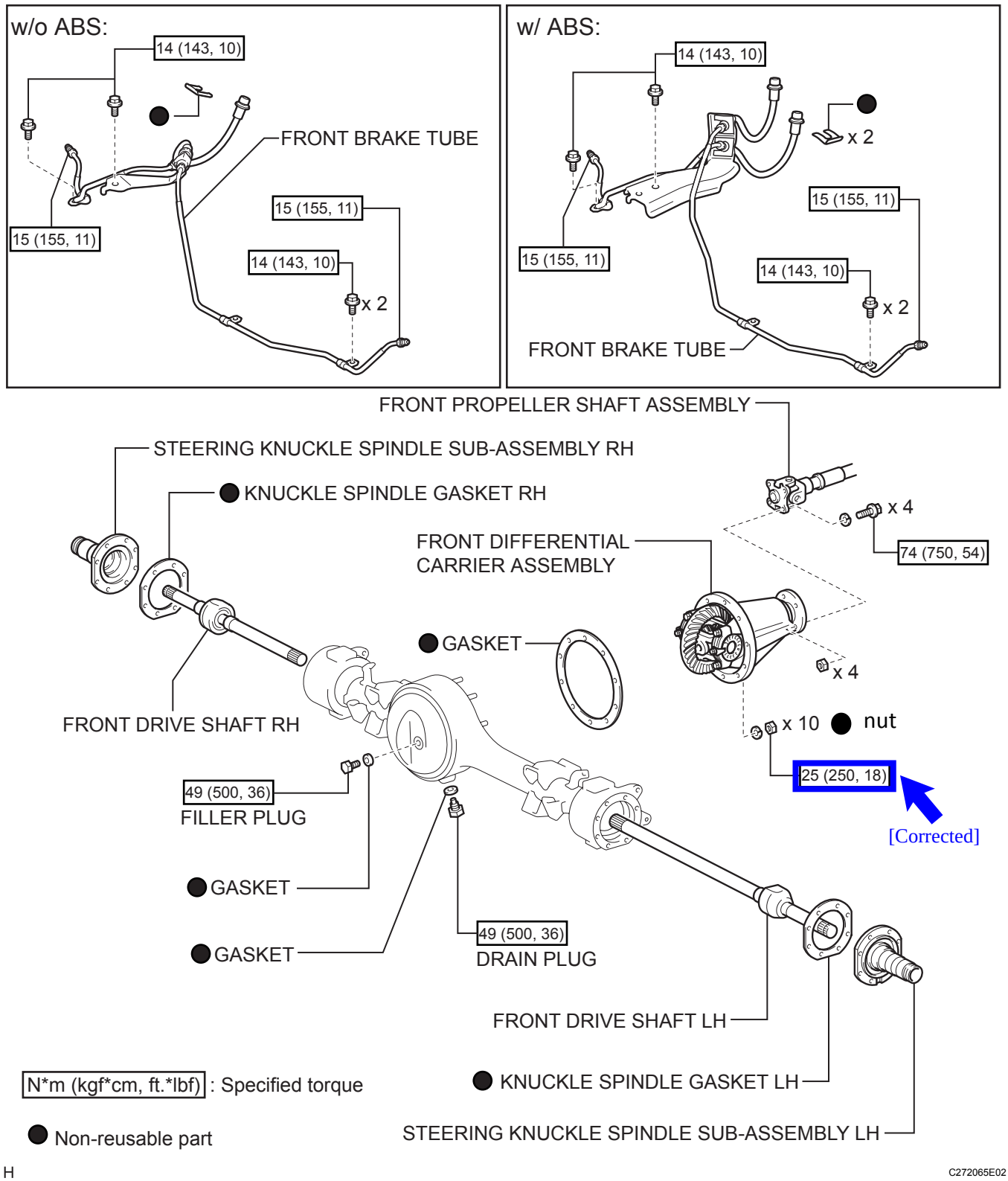
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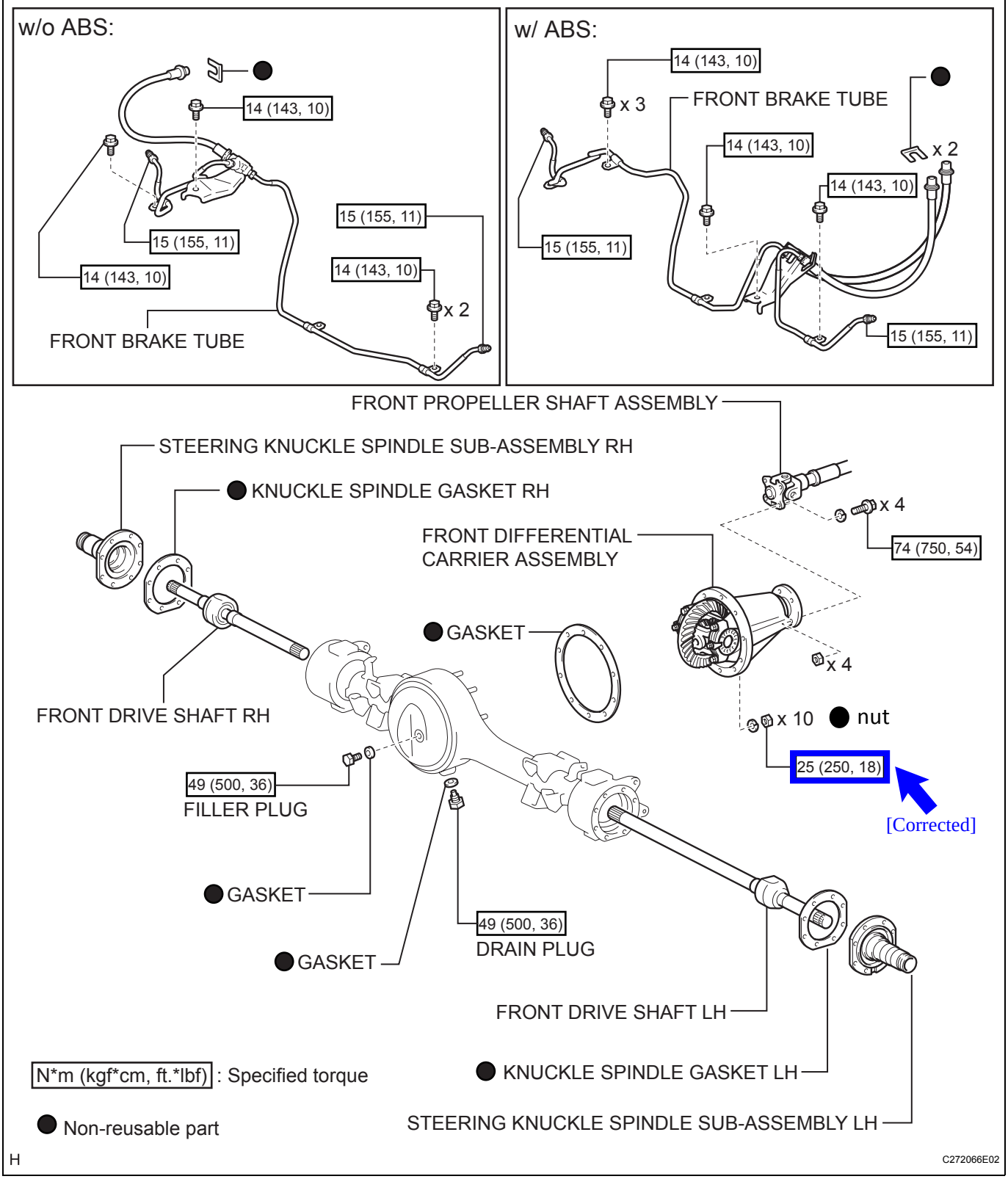
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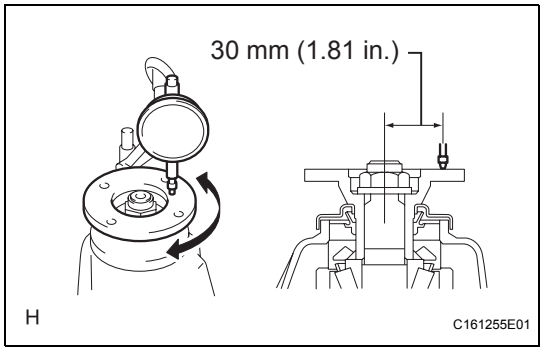
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for 1GR-FE:



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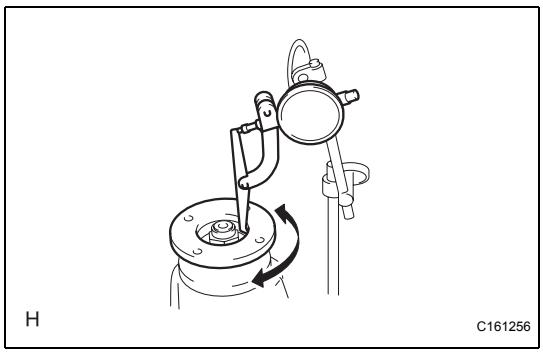
25. INSPECT RUNOUT OF FRONT DRIVE PINION FRONT COMPANION FLANGE SUB-ASSEMBLY

(a) Using a dial indicator, measure the runout of the companion flange vertically.

Maximum runout:

0.10 mm (0.00394 in.)

If the runout is greater than the maximum, replace the companion flange.

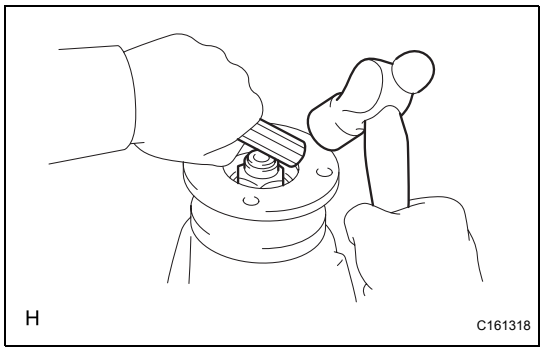


(b) Using a dial indicator, measure the runout of the companion flange laterally.

Maximum runout:

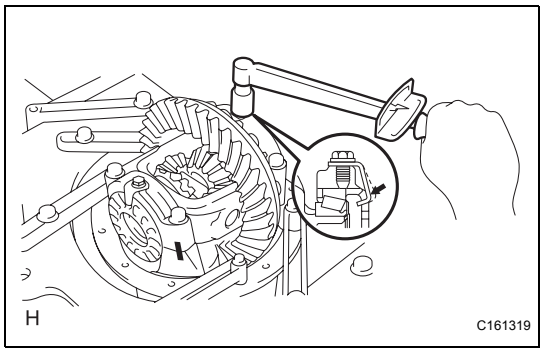
0.10 mm (0.00394 in.)

If the runout is greater than the maximum, replace the companion flange.



26. STAKE FRONT DRIVE PINION COMPANION FLANGE FRONT NUT

(a) Using a chisel and hammer, stake the nut.



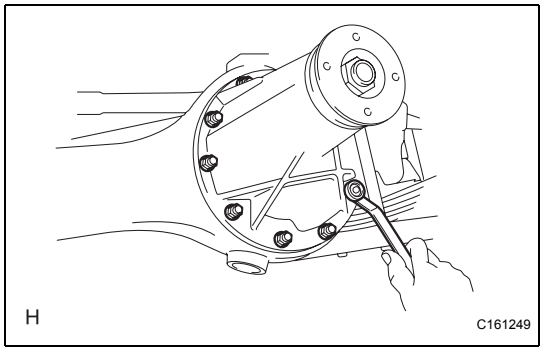
27. INSTALL FRONT DIFFERENTIAL BEARING ADJUSTING NUT LOCK

(a) Install 2 new adjusting locks onto the bearing caps with the 2 bolts.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

(b) Bend the nut locks.

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INSTALLATION

(2007/01-2012/08)

1. INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY

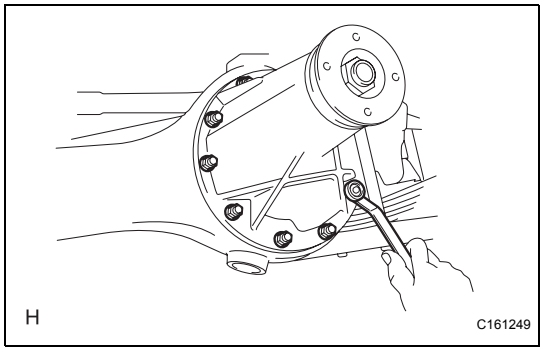
(a) Clean the contact surfaces of the front differential carrier and the front axle housing.

(b) Install a new front differential carrier gasket and the differential carrier with the 10 nuts and 10 washers.

Torque: 25 N*m (250 kgf*cm, 18 ft.*lbf)

[Corrected]

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INSTALLATION

(2012/08-)

1. **INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY**
   (a) Clean the contact surfaces of the front differential carrier and the front axle housing.
   (b) Install a new front differential carrier gasket and the differential carrier with the 10 nuts and 10 washers.
   Torque: 25 N*m (250 kgf*cm, 18 ft.*lbf)
   NOTICE:
   Be careful not to damage the installation surface.
   [Corrected]

2. **INSTALL FRONT DRIVE SHAFT LH**
   (a) Position one flat part of the outer shaft upward and install the shaft.

3. **INSTALL FRONT DRIVE SHAFT RH**
   HINT:
   Use the same procedures described for the LH side.

4. **INSTALL KNUCKLE SPINDLE GASKET LH**
   (a) Install a new gasket to the steering knuckle.

5. **INSTALL KNUCKLE SPINDLE GASKET RH**
   HINT:
   Use the same procedures described for the LH side.

6. **INSTALL STEERING KNUCKLE SPINDLE SUB-ASSEMBLY LH**
   (a) Install the spindle to the steering knuckle.

7. **INSTALL STEERING KNUCKLE SPINDLE SUB-ASSEMBLY RH**
   HINT:
   Use the same procedures described for the LH side.

8. **INSTALL FRONT DISC BRAKE DUST COVER SUB-ASSEMBLY LH**
   (a) Install the dust cover to the steering knuckle.

9. **INSTALL FRONT DISC BRAKE DUST COVER SUB-ASSEMBLY RH**
   HINT:
   Use the same procedures described for the LH side.

10. **INSTALL KNUCKLE SPINDLE OIL RETAINER GASKET LH**
    (a) Install a new gasket to the dust cover.

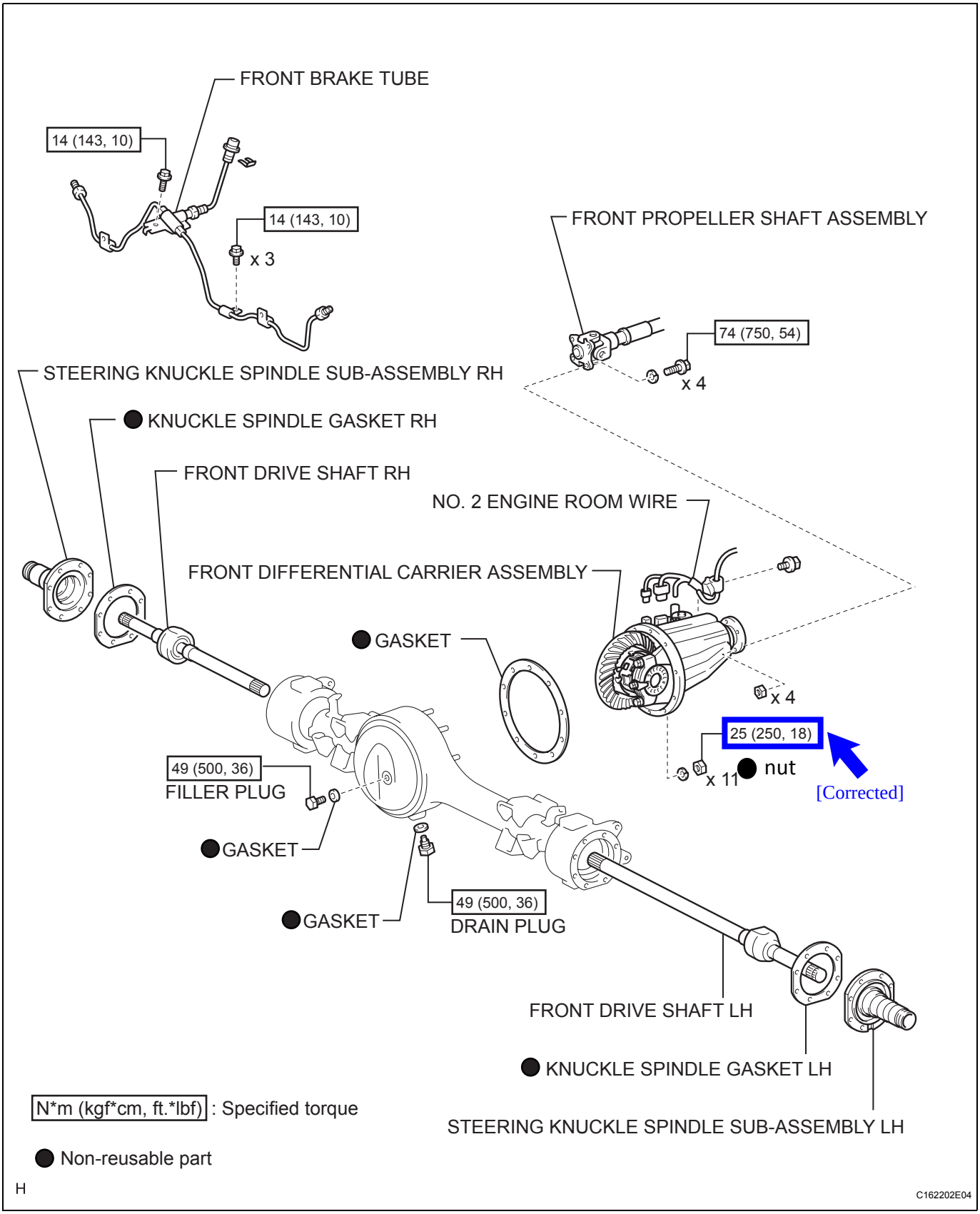
11. **INSTALL KNUCKLE SPINDLE OIL RETAINER GASKET RH**
    HINT:
    Use the same procedures described for the LH side.

12. **INSTALL FRONT AXLE HUB DUST SEAL LH**
    (a) Install the dust seal to the dust cover with the 8 bolts.
    Torque: 47 N*m (479 kgf*cm, 35 ft.*lbf)

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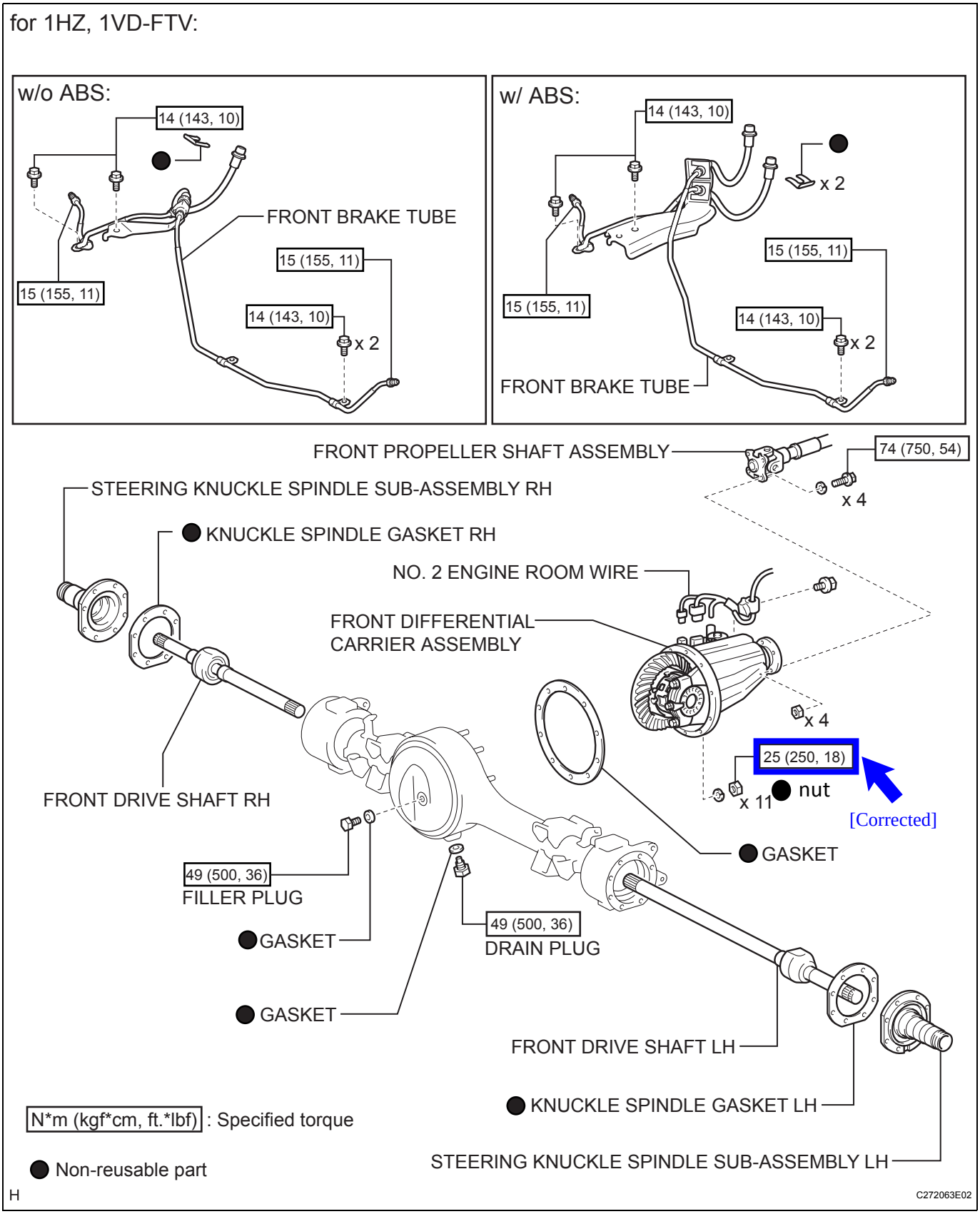
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DIFFERENTIAL – FRONT DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)



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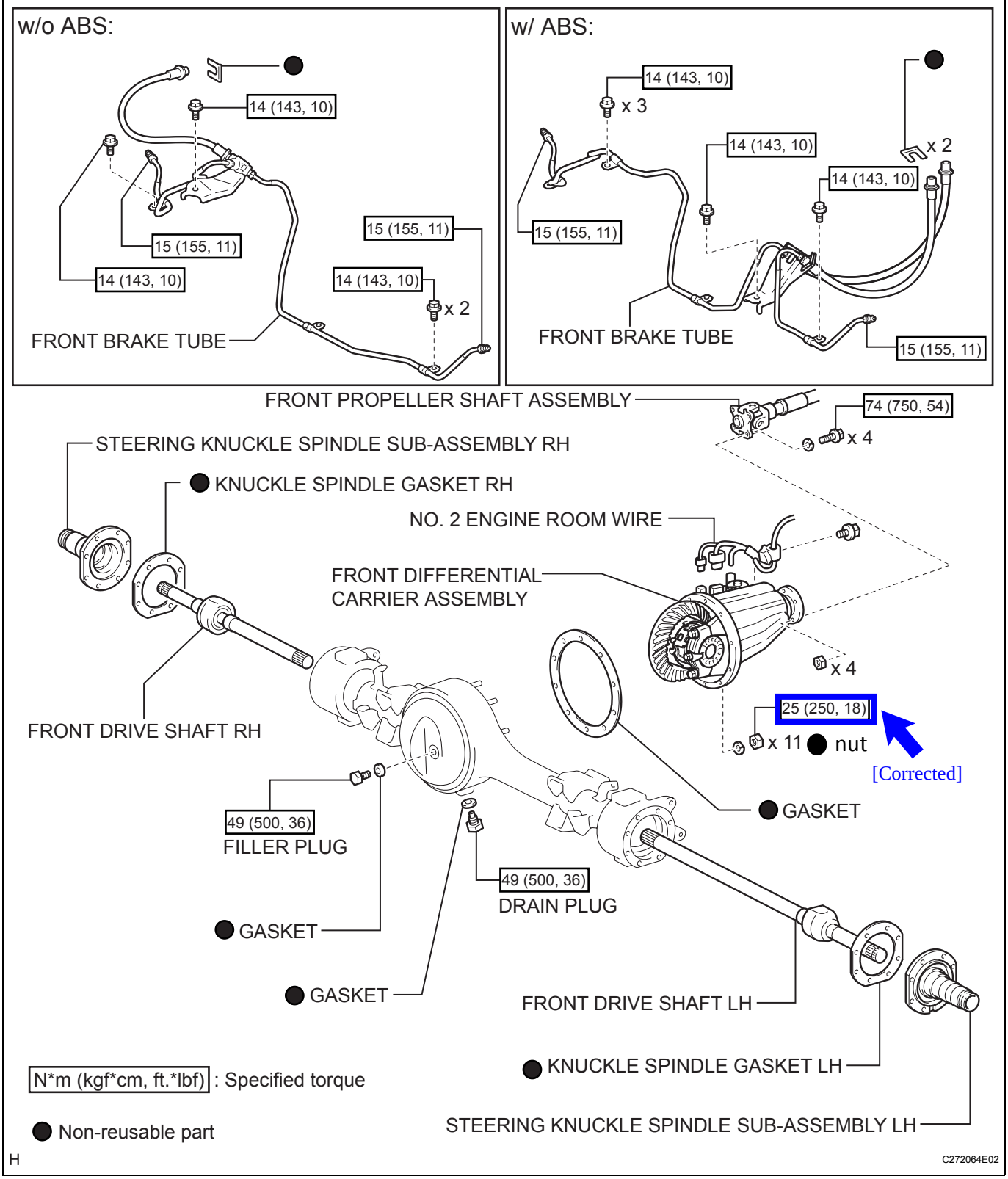
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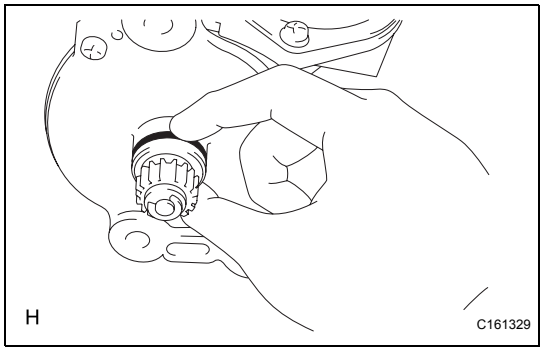
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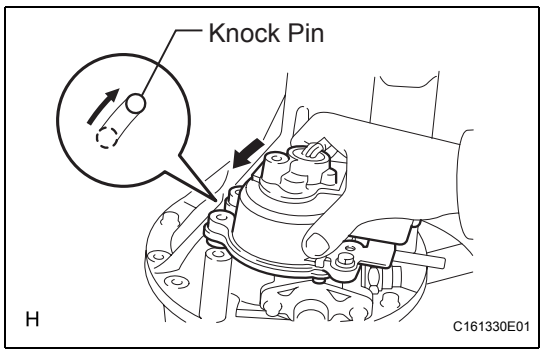


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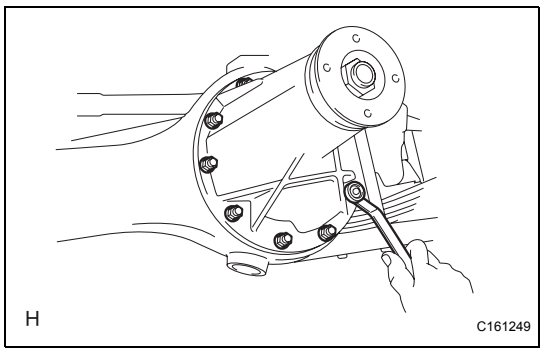
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(e) Install a new O-ring to the actuator.
(f) Apply a light coat of gear oil to the O-ring.
(g) Apply MP grease to the gear parts.



(h) Ensure that the outermost rack tooth of the shift fork is aligned with the alignment marks on the pinion of the actuator.
(i) Align the long hole of the actuator with the knock pin of the carrier, and install the actuator.
NOTICE:
Do not damage the O-ring of the actuator.
(j) Rotate the actuator counterclockwise until the knock pin is in the position shown in the illustration.
(k) Install the bolts.
Torque: 27 N*m (275 kgf*cm, 20 ft.*lbf)



INSTALLATION

(2007/01-2012/08)

1. INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY

(a) Clean the contact surfaces of the front differential carrier and the front axle housing.
(b) Install a new front differential carrier gasket and the differential carrier with the 10 nuts and 10 washers.
Torque: 25 N*m (250 kgf*cm, 18 ft.*lbf) [Corrected]
NOTICE:
Be careful not to damage the installation surface.

2. INSTALL FRONT DRIVE SHAFT LH

(a) Position one flat part of the outer shaft upward and install the shaft.

3. INSTALL FRONT DRIVE SHAFT RH

HINT:
Use the same procedures described for the LH side.

4. INSTALL KNUCKLE SPINDLE GASKET LH

(a) Install a new gasket to the steering knuckle.

5. INSTALL KNUCKLE SPINDLE GASKET RH

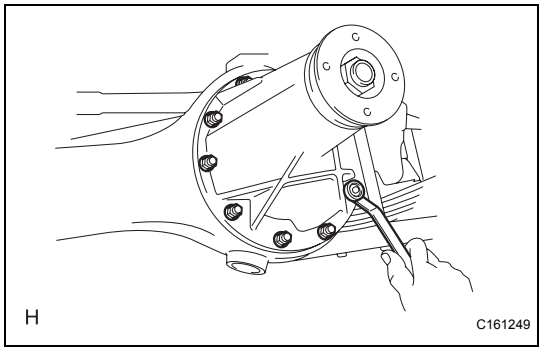
HINT:
Use the same procedures described for the LH side.

6. INSTALL STEERING KNUCKLE SPINDLE SUB-ASSEMBLY LH

(a) Install the spindle to the steering knuckle.

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INSTALLATION

(2012/08-)

1. **INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY**
   (a) Clean the contact surfaces of the front differential carrier and the front axle housing.
   (b) Install a new front differential carrier gasket and the differential carrier with the 10 nuts and 10 washers.
   Torque: 25 N*m (250 kgf*cm, 18 ft.*lbf)
   NOTICE:
   Be careful not to damage the installation surface.
   [Corrected]
2. **INSTALL FRONT DRIVE SHAFT LH**
   (a) Position one flat part of the outer shaft upward and install the shaft.
3. **INSTALL FRONT DRIVE SHAFT RH**
   HINT:
   Use the same procedures described for the LH side.
4. **INSTALL KNUCKLE SPINDLE GASKET LH**
   (a) Install a new gasket to the steering knuckle.
5. **INSTALL KNUCKLE SPINDLE GASKET RH**
   HINT:
   Use the same procedures described for the LH side.
6. **INSTALL STEERING KNUCKLE SPINDLE SUB-ASSEMBLY LH**
   (a) Install the spindle to the steering knuckle.
7. **INSTALL STEERING KNUCKLE SPINDLE SUB-ASSEMBLY RH**
   HINT:
   Use the same procedures described for the LH side.
8. **INSTALL FRONT DISC BRAKE DUST COVER SUB-ASSEMBLY LH**
   (a) Install the dust cover to the steering knuckle.
9. **INSTALL FRONT DISC BRAKE DUST COVER SUB-ASSEMBLY RH**
   HINT:
   Use the same procedures described for the LH side.
10. **INSTALL KNUCKLE SPINDLE OIL RETAINER GASKET LH**
    (a) Install a new gasket to the dust cover.
11. **INSTALL KNUCKLE SPINDLE OIL RETAINER GASKET RH**
    HINT:
    Use the same procedures described for the LH side.
12. **INSTALL FRONT AXLE HUB DUST SEAL LH**
    (a) Install the dust seal to the dust cover with the 8 bolts.
    Torque: 47 N*m (479 kgf*cm, 35 ft.*lbf)

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