

Inspection

1. Use the m Ω tester to check the line resistance.

Category	Inspection area	Inspection criteria	Remarks
Resistance (Line - Line)	U - V	34.0 m Ω $\pm$ 5%	Based on ambient temperature (20°C)
	V - W		
	W - U		

2. Check the temperature sensor resistance.

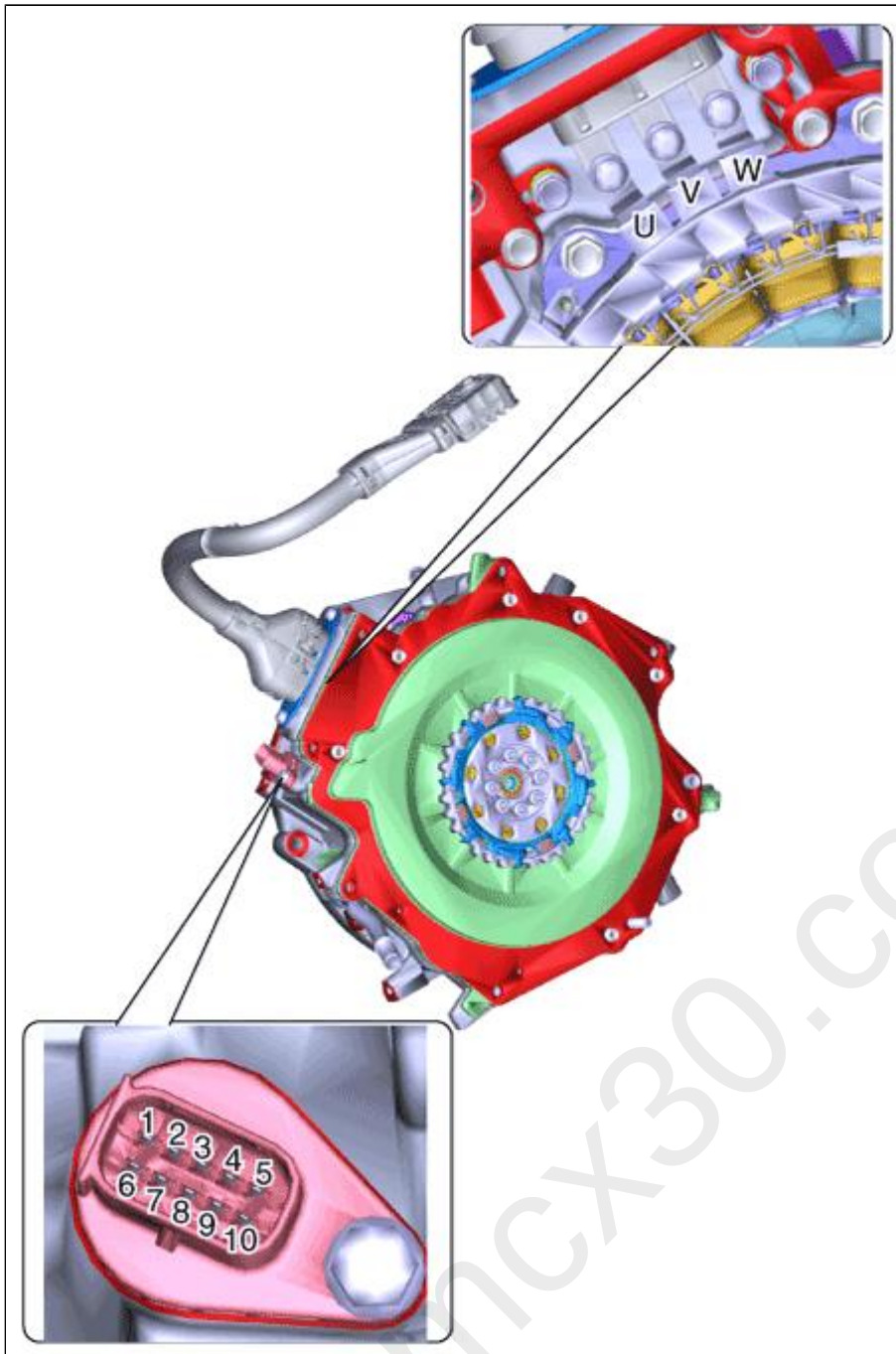
Category	Inspection area	Inspection criteria	Remarks
Resistance (Temperature sensor)	Pin 5 - 10	15k Ω (30°C / 86°F) - 25k Ω (10°C / 50°F)	10 - 30°C / 50 - 86°F

3. Check the resolver sensor resistance.

Category	Inspection area	Inspection criteria	Remarks
Resistance (Resolver sensor)	Pin 2 - 7	37 Ω $\pm$ 7%	18 - 28°C / 64 - 82°F
	Pin 3 - 8	144 Ω $\pm$ 7%	
	Pin 4 - 9	126 Ω $\pm$ 7%	

4. Perform the insulation test.

Category	Inspection area	Inspection criteria	Remarks
Insulation (Housing, cover)	W - U - V	100 M Ω ↑	DC 500 V, 1 minute
		4.0 mA↓	AC 1600 V, 1 minute
	Position (resolver) sensor	100 M Ω ↑	DC 500 V, 1 minute
	Temperature sensor	100 M Ω ↑	

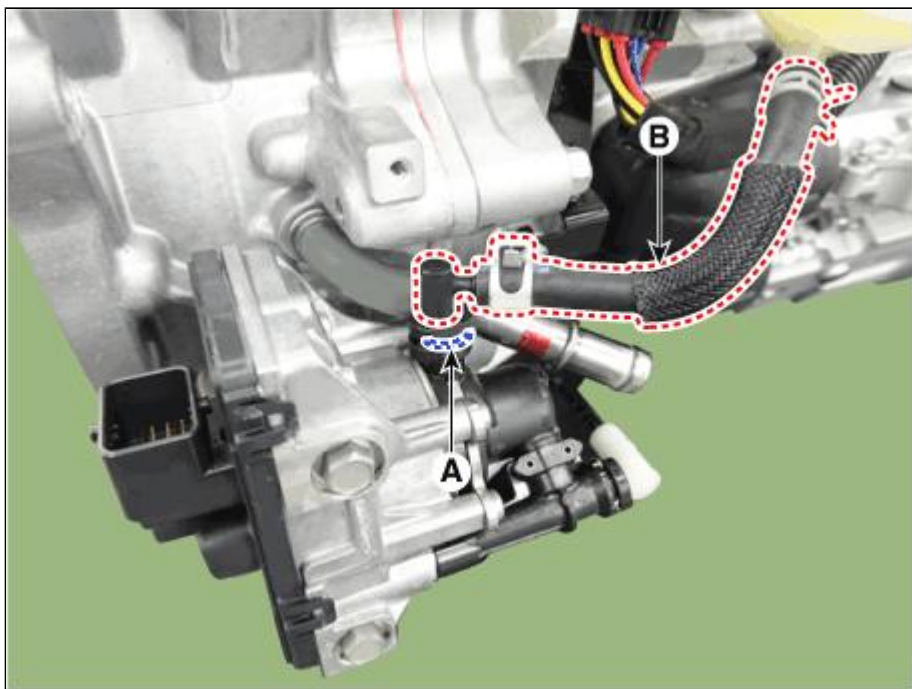


Removal

1. Remove the dual clutch transmission (DCT) from the vehicle.
(Refer to DCT (Dual Clutch Transmission) System - "DCT (Dual Clutch Transmission)")
2. Remove the snap pin (A) and then separate the reservoir hose (B).

CAUTION

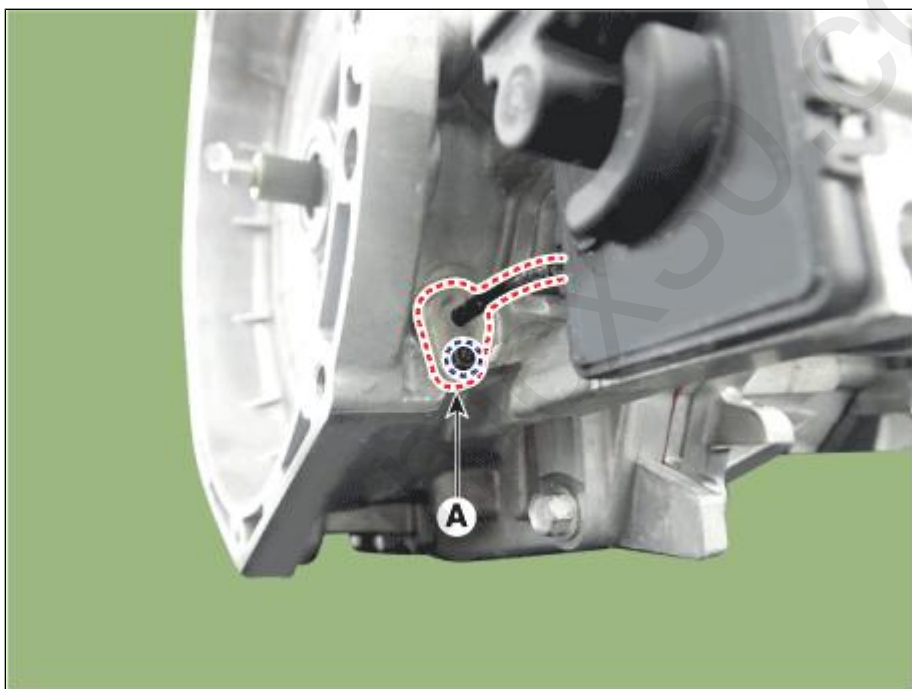
After disconnecting the hose, block the end to prevent the hydraulic fluid from leaking. Make sure that the hydraulic fluid does not drop on other components or your body. If the hydraulic fluid dropped on other components or your body, wash it immediately.



3. Loosen the bolt and then removing the adapter (A) from hybrid motor.

Tightening torque :

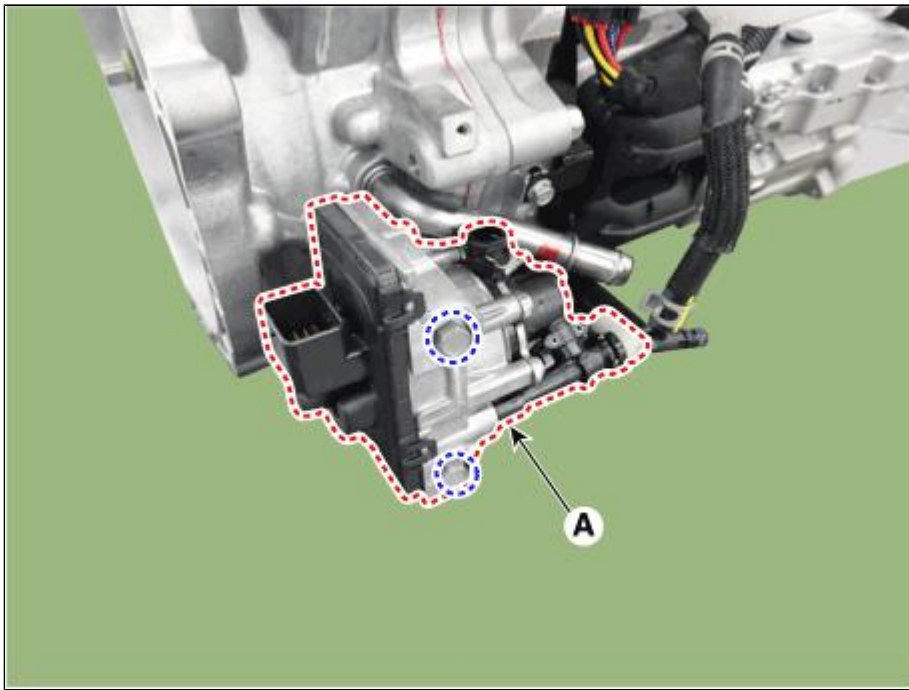
3.9 - 5.9 N.m (0.4 - 0.6 kgf.m, 2.9 - 4.3 lb-ft)



4. Loosen the bolts and then removing the engine clutch actuator (A) from hybrid motor.

Tightening torque :

19.6 - 21.6 N.m (2.0 - 2.2 kgf.m, 13.7 - 15.9 lb-ft)



⚠ CAUTION

When assembling the reservoir hose with an actuator, make sure that the clamp does not interfere with other parts.

Completely remove air from the engine clutch system.

After installing the hose, place the clamp between the markings.

After installing the reservoir hose, do not twist.

After assembly, both wings of the clamp should face the front of the transmission.

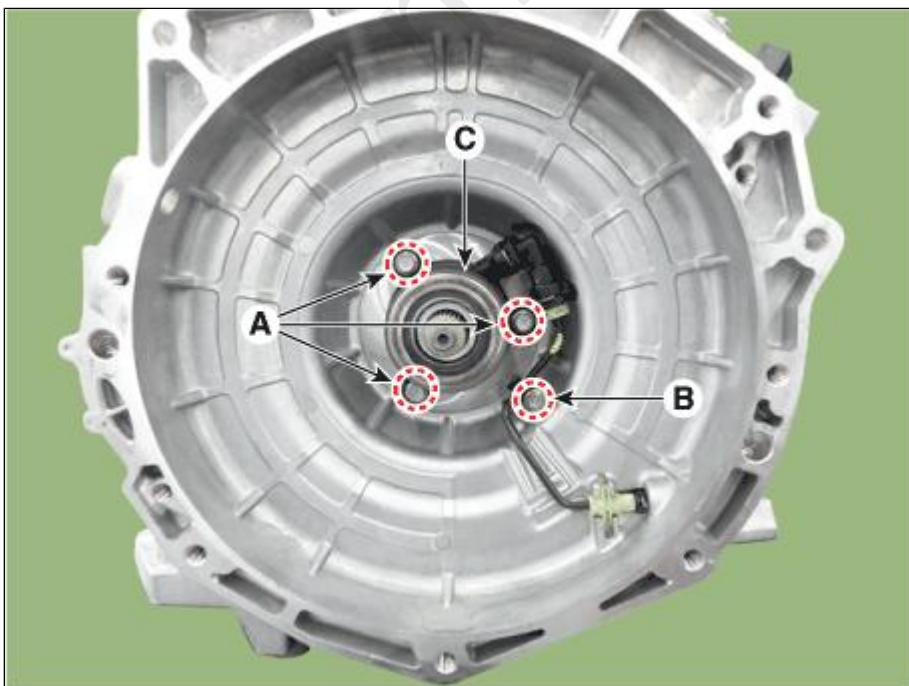
Be careful when transporting, managing and assembling parts to prevent foreign substances such as dust from entering the hose.

5. Loosen the bolts (A, B) and then removing the concentric slave cylinder (C).

Tightening torque :

(A) : 9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)

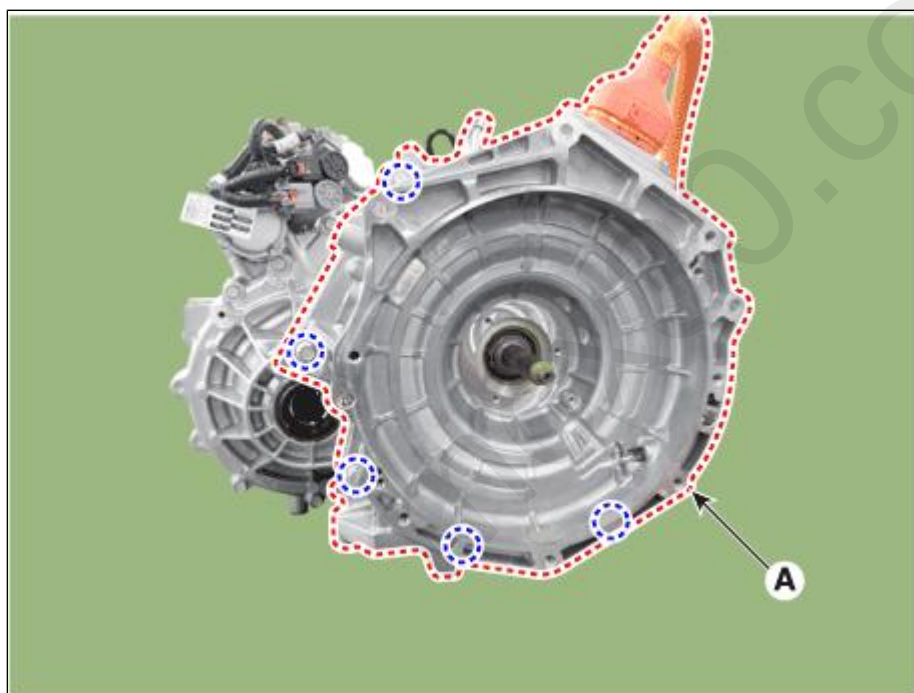
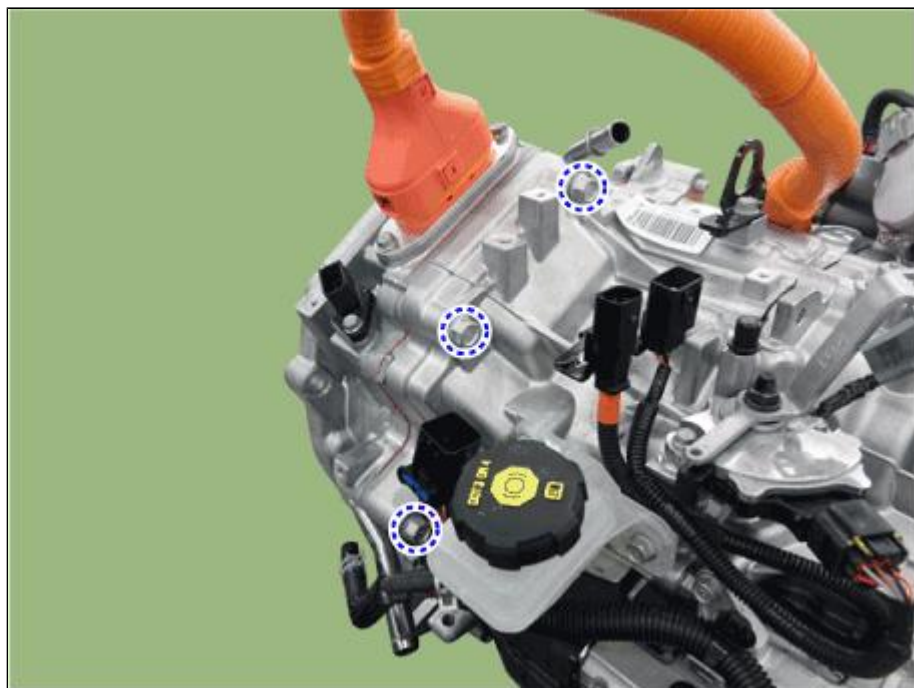
(B) : 3.9 - 5.9 N.m (0.4 - 0.6 kgf.m, 2.9 - 4.3 lb-ft)



6. Loosen the bolts and then removing the motor assembly (A).

Tightening torque :

42.2 - 53.9 N.m (4.3 - 5.5 kgf.m, 31.1 - 39.8 lb-ft)



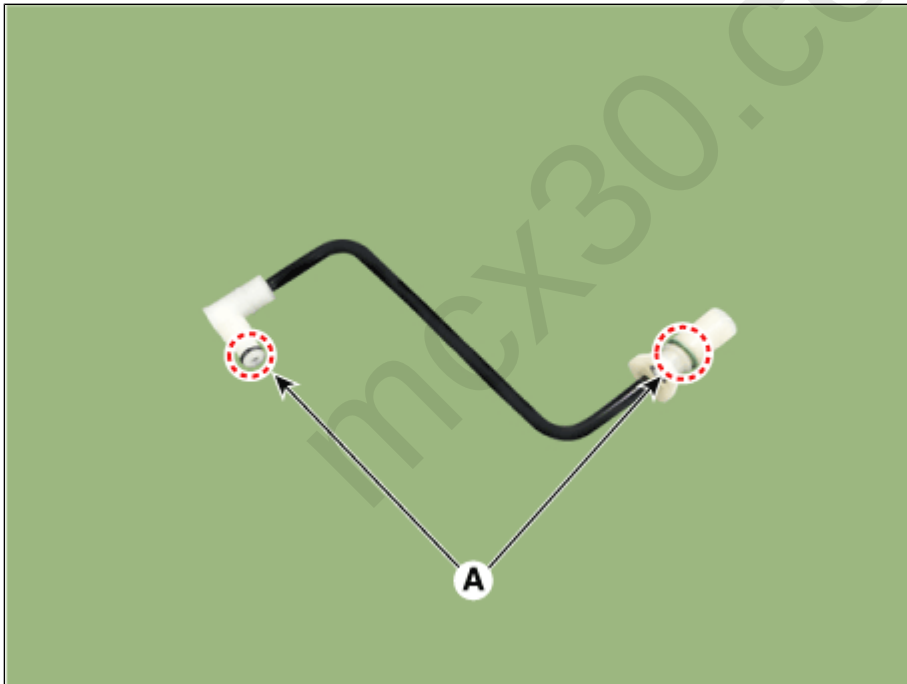


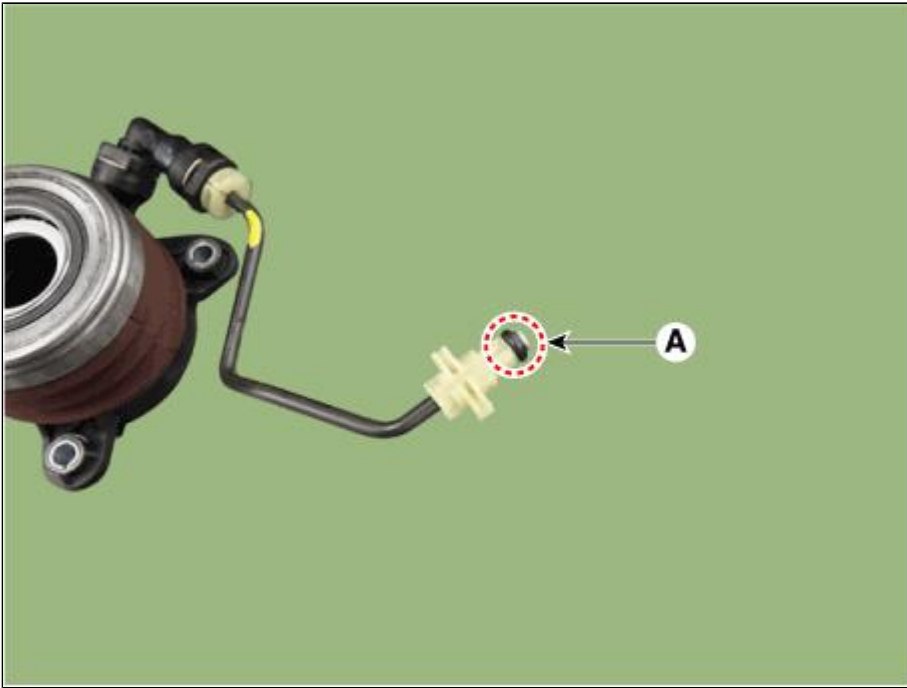
Installation

1. To install, reverse the removal procedure.

NOTICE

Before installing the engine clutch actuator, check the assembled state of the O-rings (A).





2. After replacing the engine clutch actuator, operate the followings in order using diagnostic tool equipment.
 - (1) Engine clutch inspection line learning and diagnostic information.

S/W Management
⌵

Systems
Components
Unfold All

Low DC/DC Converter
⌵

System Identification
 ⌵

LDC Activation Test
 ⌵

Initialization of the engine clutch inspection line learning and diagnostic information
 ⌵

Removal of air from engine clutch hydraulic pressure line
 ⌵

Engine Clutch/Motor Resolver Adaptation
 ⌵

Stabilization of the engine clutch hardware transfer torque
 ⌵

HCU Variant Coding
 ⌵

Engine clutch engagement test
 ⌵

Stabilization of Hydraulic Oil Flow of Engine Clutch
 ⌵

Dual Clutch Transmission
⌵

Brake
⌵

Airbag(Event #1)
⌵

Airbag(Event #2)
⌵

Air Conditioner
⌵

On Board Charger
⌵

Motor Driven Power Steering
⌵

Tire Pressure Monitoring
⌵

!
Do not touch any system buttons while performing this function.

(2) Removal of air from engine clutch hydraulic pressure line.

i Information

When using a vacuum-pressure equipment to inject hydraulic fluid, the vacuum pressure should be no more than 2.5 torr and the injection pressure should be between 2.3 - 2.5 bars.

If it is impossible to inject hydraulic fluid using the above condition, be sure to remove air from the hydraulic line of the engine clutch at a temperature between 0 - 40°C.

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(3) Engine clutch/motor resolver adaptation.

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