



GROUP
CHA

MODEL
2014-2019MY
All Listed Models

NUMBER
098 (Rev 3, 08/07/2020)

DATE
August 2019

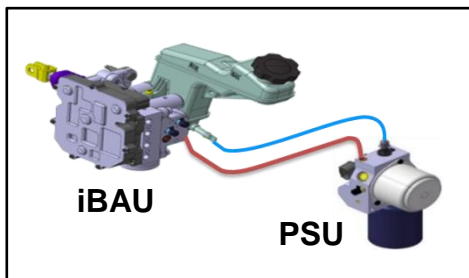
TECHNICAL SERVICE BULLETIN

IBAU SYSTEM REPAIR FOR NOISE AND AIR BLEEDING

* NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides the repair procedure for the Integrated Brake Actuation Unit (iBAU) system on some 2014-2019MY EV/Hybrid/Plug-In Hybrid vehicles listed (see table), which may exhibit a “Honking” (Hissing) noise due to air remaining in the brake fluid system. Perform the air bleeding procedure outlined in this bulletin for the “Honking (Hissing) noise” concern when operating the brake pedal. Note: It is not recommended to replace the iBAU, Pressure Source Unit (PSU) and/or other related Active Hydraulic Boost (AHB) brake system components for this noise concern.



| iBAU Repair Application Table | |
|-------------------------------|-------------|
| Model Vehicle | Model Year |
| Niro (DE HEV/PHEV) | 2017-2019MY |
| Optima (TF HEV) | 2014-2016MY |
| Optima (JF HEV/PHEV) | 2017-2019MY |
| Soul (PS EV) | 2015-2019MY |



Audio Media File: Click for [“Honk”](#) sample noise.

Video Media File: Click for [“iBAU Air Bleeding”](#) procedure.

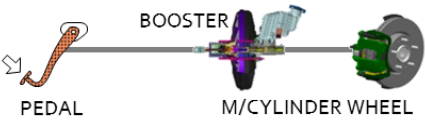
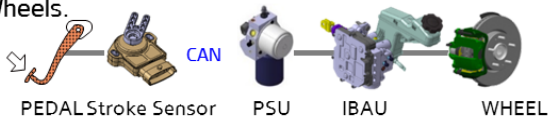
| Type | 'Honking' (Hissing) | 'CLICK' (Snap/Tok) | Beep | 'Grrr'(Motor oper.) |
|---------------|------------------------------------|--|---|---|
| Cause | Air remaining in the brake system. | When high pressure fluid pass the valve | Coil Vib. Noise when operating | PSU motor operating Noise, when charging the pressure |
| Content | <p>'honk'</p> <p>Elec. Valve</p> | <p>High Press. Fluid</p> <p>Elec. Valve</p> <p>Crash with high pressure fluid</p> | <p>Coil</p> <p>Coil</p> <p>Elec. Valve</p> <p>Coil on/off 2-4 rev/s</p> <p>“Beep”</p> <p>“Beep”</p> | |
| Service Guide | Air bleeding | Explain to customer about normal system operation noise. (The iBAU should not be replaced for this phenomenon) | | |

Printed TSB copy is for reference only; information may be updated at any time.
Always refer to KGIS for the latest information.

Circulate To: General Manager Service Manager Parts Manager
 Service Advisors Technicians Body Shop Manager Fleet Repair

SUBJECT: IBAU SYSTEM REPAIR FOR NOISE AND AIR BLEEDING

Comparison between General and iBAU brake systems:

| Type | General Brake system (Using Vacuum) | iBAU Brake system (keeping High Pressure / Using Elec. Valve) |
|-------|--|--|
| Comp. | 1) Booster : Using Engine Vacuum, help braking 2) Master Cylinder : Distribute brake pressure | 1) PSU : Keeping high pressure by motor operation. 2) iBAU : Distribute brake pressure by Valve ON/OFF |
| Char. | <ul style="list-style-type: none"> Brake pressure is decided by driver.  <p>PEDAL BOOSTER M/CYLINDER WHEEL</p> | <ul style="list-style-type: none"> With driver's intention, iBAU decides the Valve's ON/OFF to Wheels.  <p>PEDAL Stroke Sensor CAN PSU IBAU WHEEL</p> |

Integrated Brake Actuation Unit (iBAU):

When a driver presses the brake pedal, the iBAU delivers brake fluid charged in the PSU to the calipers by opening a valve. When pressing the brake pedal, high pressure brake fluid passes through the internal iBAU valve. Then, the valve operating sound "click" will be heard.

Pressure Source Unit (PSU):

The PSU continuously charges and stores brake fluid at high pressure (2,321 – 2,611 psi., 160-180 Bar) by operating the PSU motor. When a driver presses the brake pedal, the brake fluid is then delivered to the calipers through the iBAU valve. After pressing the brake pedal, the normal PSU motor operating sound "grrr" will be heard while it recharges the lowered pressure.

Air Bleeding Procedure:

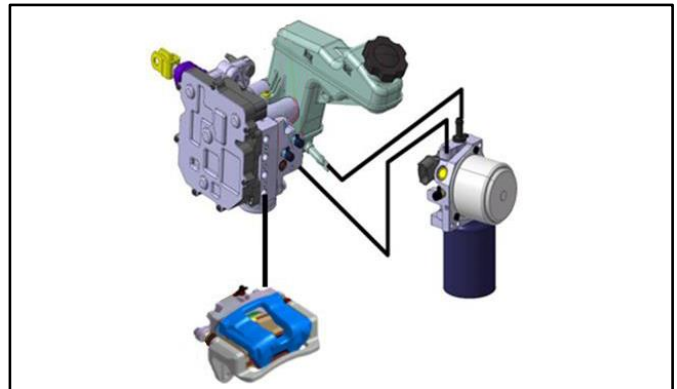
*** NOTICE**

The iBAU consists of 3 brake fluid lines in total (low/high pressure and pedal simulator lines), therefore, air bleeding should be made sequentially following the procedure below.

| Procedure | Step | Repair | iBAU ECU |
|--------------------------------|------|--|----------|
| iBAU/AHB Brake System Bleeding | 1 | Low Pressure and Simulator Fluid Lines | OFF |
| | 2 | High Pressure Brake Fluid Line | ON |
| | 3 | Fluid Circulation Mode with KDS | ON |

1. Refer to the "Brake System → Brake Bleeding Procedure" chapter in the applicable Shop Manual on KGIS.

- Air Bleeding Tool Installation Procedure
- AHB Brake System Bleeding (Steps 1, 2 and 3)
- Air Bleeding Tool Removal Procedure




SUBJECT:

IBAU SYSTEM REPAIR FOR NOISE AND AIR BLEEDING

AFFECTED VEHICLE RANGE:

| Model | Production Date Range |
|------------------|-----------------------|
| Niro (DE HEV) | 2017 - 2019MY |
| Niro (DE PHEV) | 2018 - 2019MY |
| Optima (TF HEV) | 2014 -2016MY |
| Optima (JF HEV) | 2017 - 2019MY |
| Optima (JF PHEV) | 2017 - 2019MY |
| Soul (PS EV) | 2015 - 2019MY |

REQUIRED TOOL:

| Tool Name | Figure | Comments |
|-----------------|--|-------------------------------------|
| SST 09580 3D100 |  | Located in SST Cabinet Drawer #7 |

WARRANTY INFORMATION:

N Code: Q55 C Code: ZZ3

| Model | Claim Type | Causal P/N | Qty. | Repair Description | Labor Op Code | Op Time | Replacement P/N | Qty. |
|-------------------|------------|-------------|------|---------------------------------------|---------------|---------|-----------------|------|
| Niro (DE) P/HEV | W | 58500 G5400 | 0 | iBAU System AHB Brake System Bleeding | 58700A1H | 1.4 M/H | N/A | 0 |
| Optima (TF) HEV | | 58500 4U700 | | iBAU System AHB Brake System Bleeding | | | | |
| Optima (JF) P/HEV | | 58500 A8450 | | iBAU System AHB Brake System Bleeding | | | | |
| Soul (PS) EV | | 58500 E4100 | | iBAU System AHB Brake System Bleeding | | | | |

*** NOTICE**

Warranty claims submitted for Integrated Brake Actuation Unit (iBAU) assemblies for unnecessary replacement will be subject to warranty chargeback.

