| Technical Service Bulletin (TSB) - VR1J45GGRJY057489 |  |  |
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| B2AU010CQ0 : Versi | 1 of 04/10/2019 | Cancel and replace the document of 14/08/2019 |
| FOR : DS 7 CROSSBACK (X74) |  |  |
| CUSTOMER <br> SYMPTOM : | VIBRATIONS, SHAKING OF THE STEERING WHEEL AND/OR OF THE BODYWORK WHILE DRIVING |  |
| CONDITIONS IN WHICH FAULT APPEARS : | WHEN DRIVING, WITHOUT ANY ACTION ON THE BRAKE PEDAL AND ONLY AT SPEEDS ABOVE 90 KM/H |  |

## 1. ORIGIN

Balancing of the front wheels .
Variation in the radial force of the front wheels .
DS 7 CROSSBACK (X74)
Driveshafts and front hub carriers.

## 2. Service Action

Check of the front suspension.
Check and adjustment of the balancing of the front wheels .
Optimisation of the radial force (matching) (Depending on the result of the check).
DS 7 CROSSBACK (X74)
Replacement (Depending on the result of the check) :

- Of the driveshafts
- Of the front hub carriers


### 2.1. Parts required

1 Left-hand driveshaft(Part No. depending on vehicle specification)(if necessary).
1 Right-hand driveshaft(Part No. depending on vehicle specification)(if necessary).
DS 7 CROSSBACK (X74)
1 Front left-hand hub carrier(Part No. 16478571 80)(if necessary).
1 Front right-hand hub carrier(Part No. 16478572 80)(if necessary).

### 2.2. Tooling

Workshop equipment : Wheel balancer.

| Tool | Reference | Description |
| :--- | :--- | :--- |



### 2.3. Check

$\mathbb{N} . \mathbf{B}_{\text {. }}$ : Before carrying out the checks, remove the wheel trims on vehicles fitted with steel wheels
$\mathbb{N}^{\mathbf{N} . B . \text { : }}$ Before carrying out the checks, replace the wheel anti-theft bolts with standard bolts on vehicles fitted witl alloy wheels

ESSENTIIAL : Observe the tyre pressures recommended by the manufacturer

### 2.3.1. Check 11

Check the wheel rims present on the vehicle :

- If the wheel rims are of manufacturer origin or are from the manufacturer's accessories catalogue : Continue the checks
- If the wheel rims are not of manufacturer origin or are not from the manufacturer's accessories catalogue : Do not apply this document


### 2.3.2. Check 2

Check:

- That there are no signs of knocks on the wheel rims or on the tyres
- That there are no signs of abnormal wear and/or damage to the tyres (Bulges, flat spots, etc.)
- The tyre pressures when cold (Adjust if necessary)
- That the wheel rims are clean on the inside and on the outside (Accumulation of dirt, earth, etc.)

If the checks are correct : Continue the checks.
If one of the checks is incorrect : Carry out the appropriate repair ; Do not apply this document.

### 2.3.3. Check 3

Check that there is no play in the front suspension :

- If there is no play in the front suspension: Continue the checks
- If there is play in the front suspension : Carry out in-depth fault finding; Do not apply this document


### 2.3.4. Check 4

Check the tightening torques of the subframe bolts and the steering rack bolts :

- If the bolts are not loose : Continue the checks
- If one or all of the bolts are loose : Tighten the bolts to torque and continue the checks


### 2.3.5. Check 5

Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel is present when driving with or without pressing the brake pedal : Carry out repair 1
- If the angular vibration of the steering wheel is present only during the braking phases: Do not apply this document; Carry out in-depth fault finding


### 2.4. Repair

### 2.4.1. Repaiir 1

$\mathbb{E S S E N T} \| \mathbb{A L}$ : Do not alter the balancing of the front wheels during this operation

Raise the vehicle.

CAUTION : Never brake to loosen the driveshaft nut because this is likely to shear the bolts fastening the brake disc

Remove the front wheels.
Unscrew the nuts on the left-hand and right-hand driveshafts by between a half-turn and a turn.
CAUTIION : Coat generously with graphite grease the thread of the driveshaft and between the lugs of the driveshaft nut, to avoid destroying the thread of the driveshaft during the driveshaft nut removal operation

CAUTIION : Do not use a pneumatic gun during the driveshaft nut refitting operations (Damage to the driveshaf thread)

Clean the threads at the end of the driveshafts.

ESSENTIIAL : Do not apply grease to the driveshaft threads
Pre-tighten the driveshaft nuts to $6 \pm 0,6$ daN.m.


Figure : B3FU00XD
Tighten the driveshaft nuts at an angle of $90 \pm 5^{\circ}$; Using the tool [4069-T].
Refit the front wheels.
CAUTIION : Observe the front wheels tightening procedure according to the type of wheel rim
Alloy wheel :

- Manually tighten 2 bolts intended for steel wheels, positioned diametrically opposite each other, with the wheel raised
- Refit 2 original bolts for alloy wheels in the free locations
- Pre-tighten the 2 original bolts to 5 daN.m, with the wheels raised
- Remove the 2 bolts intended for steel wheels
- Refit and pre-tighten the 2 original bolts for alloy wheels to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

## Tighten the wheel bolts in a star formation to the required torque.

Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Steel wheel :

- Pre-tighten the 4 original bolts to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel has disappeared : The repair is complete
- If the angular vibration of the steering wheel is still present: Overinflate the tyres by 0,5 bar in relation to the reference value

Road test the vehicle:

- If the angular vibration of the steering wheel increases: Check the out-of-true and out-of-round of the wheel rir
(Value less than or equal to $0,3 \mathrm{~mm}$ for alloy wheel rims and value less than or equal to $0,7 \mathrm{~mm}$ for steel whee rims) : If the values are outside the tolerance, replace the wheel rim ; Carry out repair 2.1 or 3.1 depending on the type of wheel balancer available (Standard or HUNTER GSP 9700 type)
- If the angular vibration of the steering wheel is reduced : Carry out repair 2.1 or 3.1 depending on the type of wheel balancer available (Standard or HUNTER GSP 9700 type)


## 2.4-2. Repaiir 2 (For standard wheell ballancer))

### 2.4.2.1. Repaiir 2.1-Check and adjustrment of the ballanciing of the firont wheels

$\mathbb{N} . B_{B}$ : Before removing the front wheels from the vehicle, mark their location on the vehicle and their position on the hub

Raise the vehicle.
CAUTIION : Do not turn the front brake discs during the operation in order to refit the front wheels in the same position at the end of the operation

Position the valve of the front wheels at "12 o'clock".
Remove the front wheels.
Note the weight values (in grammes) and mark their position for the 2 front wheels .

> ESSENTIIAL: When fitting the front wheel on the wheel balancer, take care to centre the hub correctly and to use $\varepsilon$ cone and a tightening device which are suited to the wheel rim

CAUTION : Do not remove the balance weights

## ESSENTI\|AL : Select a suitable programme for measuring the residual imbalance to the nearest gramme

Check the balance of the front wheels by means of the following procedure:

- Tighten the front wheel on the wheel balancer with the valve positioned at " 12 o'clock"
- Start a balancing cycle on the machine
- Note all of the imbalance values obtained (in grammes), if any, and their position
- Manually position the front wheel with the valve at "12 o'clock"
- Keep the machine braked
- Slacken the wheel
- Turn the wheel half a turn
- Tighten the wheel
- Start another balancing cycle
- Note, again, all of the imbalance values obtained (in grammes), if any, and their position

Check the values obtained:

- If the residual imbalance values obtained (in grammes) are different after having turned the wheel half a turn : Calibrate the wheel balancer. Start repair 2.1 again from the beginning
- If the residual imbalance values obtained are the same as regards both their value and their position and have a value of more than 5 grammes per side (inside/outside) of the front wheel rim : Continue the repair 2.1
- If the residual imbalance values obtained are the same as regards both their value and their position and the value is less than 5 grammes per side (inside/outside) of the front wheel rim : Carry out repair 2.2

Remove the balance weights .
CAUTIION : The sum of the balance weights must not exceed 120 grammes and 60 grammes maximum per sid (inside/outside) of the front wheel rim

ESSENTIIAL : At the end of the balancing cycle, the residual imbalance must be less than 5 grammes per sid $\epsilon$
(inside/outside) of the front wheel rim
Balance the front wheels by means of the following procedure :

- Tighten the front wheel on the wheel balancer with the valve positioned at " 12 o'clock"
- Start a balancing cycle on the machine (Select a suitable programme for measuring the residual imbalance to the nearest gramme)

Check the total value of the weights applied during the balancing :

- If the total value of the balance weights is less than 60 grammes for each side (inside/outside) of the front wheel rim : Continue with the repair 2.1
- If the total value of the balance weights is more than 60 grammes for at least one side (inside/outside) of the front wheel rim : Carry out repair 2.2

Refit the front wheels.
Observe:

- The side of fitting on the vehicle
- The orientation on the hub, with the tyre valve at "12 o'clock"

CAUTIION : Observe the front wheels tightening procedure according to the type of wheel rim
Alloy wheel :

- Manually tighten 2 bolts intended for steel wheels, positioned diametrically opposite each other, with the wheel raised
- Refit 2 original bolts for alloy wheels in the free locations
- Pre-tighten the 2 original bolts to 5 daN.m, with the wheels raised
- Remove the 2 bolts intended for steel wheels
- Refit and pre-tighten the 2 original bolts for alloy wheels to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Steel wheel :

- Pre-tighten the original bolts to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

## Tighten the wheel bolts in a star formation to the required torque.

## Additional parts which must always be replaced : None.

In addition, carrying out this repair requires the following operations to be carried out : None.
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel has disappeared: The repair is complete
- If the angular vibration of the steering wheel is still present : Carry out repair 2.2


### 2.4.2.2. Repaiir 2.2 - Resuumption of ballanciing witth tyire rotation

$\mathbb{N} . B_{\text {. }}$ : Before removing the front wheels from the vehicle, check that the marks made during repair 2.1 (location or the vehicle and their position on the hub) are still visible

Raise the vehicle.
CAUTIION : Do not turn the front brake discs during the operation in order to refit the front wheels in the same position at the end of the operation

## Position the valve of the front wheels at "12 o'clock".

Remove the front wheels.

Deflate the tyres .
Detach the tyres from the wheel rims .
$\mathbb{N} . \mathbf{B}_{\text {. }}$ : Visually check that the tyre has not been repaired using a puncture repair product (Temporary tyre repair kit)
Turn the tyres a quarter of a turn on the wheel rims.
CAUTIION : To ensure the correct positioning of the tyre bead toe on the wheel rim, inflate the tyre without the valve core (3 bars minimum)

Inflate the tyres .
CAUTIION : The sum of the balance weights must not exceed 120 grammes and 60 grammes maximum per sid (inside/outside) of the front wheel rim

ESSENTIIAL : At the end of the balancing cycle, the residual imbalance must be less than 5 grammes per side (inside/outside) of the front wheel rim

ESSENTIIAL : Select a suitable programme for measuring the residual imbalance to the nearest gramme

Balance the front wheels by means of the following procedure:

- Tighten the front wheel on the wheel balancer with the valve positioned at "12 o'clock"
- Start a balancing cycle on the machine

Check the total value of the weights applied during the balancing :

- If the total value of the balance weights is less than 60 grammes for each side (inside/outside) of the front wheel rim : Continue with the repair 2.2
- If the total value of the balance weights is more than 60 grammes for at least one side (inside/outside) of the front wheel rim : Turn the tyre an additional quarter of a turn on the wheel rim ; Repeat repair 2.2
- If the tyre has been turned half a turn on the wheel rim and the total value of the balance weights is more than 60 grammes for at least one side (inside/outside) of the front wheel rim : Replace the tyre or the set of tyres depending on the wear. Continue the repair 2.2


## Refit the front wheels.

## Observe:

- The side of fitting on the vehicle
- The orientation on the hub , with the tyre valve at " 12 o'clock"

CAUTIION : Observe the front wheels tightening procedure according to the type of wheel rim
Alloy wheel :

- Manually tighten 2 bolts intended for steel wheels, positioned diametrically opposite each other, with the wheel raised
- Refit 2 original bolts for alloy wheels in the free locations
- Pre-tighten the 2 original bolts to 5 daN.m, with the wheels raised
- Remove the 2 bolts intended for steel wheels
- Refit and pre-tighten the 2 original bolts for alloy wheels to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground

DS 7 CROSSBACK (X74)
Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Steel wheel :

- Pre-tighten the 5 original bolts to daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

## Tighten the wheel bolts in a star formation to the required torque.

Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Adjust the pressure of the tyres in accordance with the values recommended by the manufacturer.
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel is still present: Carry out repair 3
- If the angular vibration of the steering wheel has disappeared: The repair is complete


### 2.4.3. Repaiir 3 (For wheell ballancer type HUNTER GSP 9700))

$\mathbb{N} . \mathbb{B}_{\text {. }}$ : The term "radial force" refers to the force of compression of the tyre when it is in contact with the ground. As : consequence of their design and current production techniques, the tyres have, in the radial direction, areas o varying rigidity. The term "variation in radial force" refers to the variation in the force of compression of the tyrt during one complete revolution of the wheel

CAUTIION : The sum of the balance weights must not exceed 120 grammes and 60 grammes maximum per side (inside/outside) of the wheel rim
$\mathbf{N} . \mathbf{B}_{\text {. : }}$ : Before removing the 4 wheels from the vehicle, mark their location on the vehicle and their position on the huk

### 2.4.3.1. Repair 3.1-Check of the varriation in radiall force of the wheels

CAUTIION : Remove and check the wheels immediately after having completed the road test
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres .
Raise the vehicle.

CAUTION : Do not turn the front brake discs and rear brake drums/discs during the operation in order to refit the wheels in the same position at the end of the operation

Remove the 4 wheels with the valve positioned at "12 o'clock".


#### Abstract

ESSENTIIAL : When fitting the front wheel on the wheel balancer, take care to centre the hub correctly and to use e cone and a tightening device which are suited to the wheel rim


## ESSENTTIAL : Select a suitable programme for measuring the residual imbalance to the nearest gramme

## CAUTIION : Do not remove the balance weights

Check the simple balance of a wheel by means of the following procedure :

- Tighten the front wheel on the wheel balancer with the valve positioned at "12 o'clock"
- Start a balancing cycle on the machine
- Note all of the imbalance values obtained (in grammes), if any, and their position
- Manually position the wheel with the valve at "12 o'clock"
- Keep the machine braked
- Slacken the wheel
- Turn the wheel half a turn
- Tighten the wheel
- Start another balancing cycle
- Note, again, all of the imbalance values obtained (in grammes), if any, and their position

Check the values obtained:

- If the residual imbalance values obtained (in grammes) are different after having turned the wheel half a turn :

Calibrate the wheel balancer. Start repair 3.1 again from the beginning

- If the residual imbalance values are the same as regards both their value and their position: Continue the repair 3.1


## ESSENTIIALL : Adjust the inflation pressure of each wheel to 2,5 bars

Note the values of the weights (in grammes) and mark their position for all the wheels .
Check the balance and the variation in the "Harmonic 1" radial force of each wheel :

- In accordance with the instructions recommended by the manufacturer of the wheel balancer
- By means of the systematic marking, on the tread, of the maximum radial force, in accordance with the indications of the wheel balancer

Note all of the values obtained in the table below.

| Characteristic | Unit | Front left-hand <br> wheel | Front right-hand <br> wheel | Rear left-hand <br> wheel | Rear right-hand <br> wheel |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Pressure | bars |  |  |  |  |
| Balancing weights <br> Inside of wheel rim | Grammes |  |  |  |  |
| Balancing weights <br> Outside of wheel rim | Grammes |  |  |  |  |
| Residual imbalance <br> Inside of wheel rim | Grammes |  |  |  |  |
| Residual imbalance <br> Outside of wheel rim | Grammes |  |  |  |  |
| Variation in radial <br> force <br> Harmonic 1 | Newtons <br> (N) |  |  |  |  |

Check the values obtained:

- If the value of the variation in the "Harmonic 1" radial force of the front wheels is less than 60 N and all of the residual imbalance values are less than 5 grammes per side (inside/outside) of the wheel rim : Save the complete measurement report ; Continue with the repair 3.1
- If the value of the variation in the "Harmonic 1" radial force of the front wheels is less than 60 N and at least on residual imbalance value is more than 5 grammes per side (inside/outside) of the wheel rim : Repeat the balancing of the wheel(s) concerned; Save the complete measurement report ; Continue with the repair 3.1
- If at least 1 value of variation in the "Harmonic 1 " radial force of the front wheels is more than 60 N : Carry out repair 3.2


## Refit the front and rear wheels.

Observe :

- The side of fitting on the vehicle
- The orientation on the hub, with the tyre valve at " 12 o'clock"

CAUTIION : Observe the procedure for tightening the wheels according to the type of wheel rim
Alloy wheel :

- Position by hand, without tightening, 2 bolts for steel wheel rims, positioned diametrically opposite to each other, with the wheels raised
- Turn the wheels to position the mark made on the tread at "12 o'clock"
- Tighten by hand the 2 bolts for steel wheel rims
- Refit 2 original bolts for alloy wheels in the free locations
- Pre-tighten the 2 original bolts to 5 daN.m, with the wheels raised
- Remove the 2 bolts intended for steel wheels
- Refit and pre-tighten the 2 original bolts for alloy wheels to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Steel wheel :

- Position by hand, without tightening, the 4 bolts, with the wheels raised
- Turn the wheels to position the mark made on the tread at "12 o'clock"
- Pre-tighten the original bolts to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

## Tighten the wheel bolts in a star formation to the required torque.

## Additional parts which must always be replaced : None.

In addition, carrying out this repair requires the following operations to be carried out : None.
Adjust the pressure of the tyres in accordance with the values recommended by the manufacturer.
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel is still present: Carry out repair 4
- If the angular vibration of the steering wheel has disappeared: The repair is complete


### 2.4.3.2. Repaiir 3.2-Optiimisatiion of the radiial force ((mnatchiing))

$\mathbb{E S S E N T I I A L}$ : When fitting the front wheel on the wheel balancer, take care to centre the hub correctly and to use $\bar{\varepsilon}$ cone and a tightening device which are suited to the wheel rim
$\mathbb{E S S E N T I I A L}$ : Select a suitable programme for measuring the residual imbalance to the nearest gramme
Carry out a cycle of optimisation of the variation in the Harmonic 1 radial force of each wheel :

- In accordance with the instructions recommended by the manufacturer of the wheel balancer
- By means of the systematic marking, on the tread, of the maximum radial force, in accordance with the indications of the wheel balancer

Note all of the values obtained in the table below.

|  | Unit | Front left-hand wheel |  | Front right-hand wheel |  | Rear left-hand wheel |  | Rear right-hanc wheel |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pressure | bars |  |  |  |  |  |  |  |  |
| Balancing weights Inside of wheel rim | Grammes | Initial value | Final value | Initial value | Final value | Initial value | Final value | Initial value | Final value |
| Balancing weights Outside of wheel rim | Grammes | Initial value | Final value | Initial <br> value | Final value | Initial value | Final value | Initial value | Final value |
| Residual imbalance Inside of wheel rim | Grammes | Initial value | Final value | Initial <br> value | Final value | Initial value | Final value | Initial <br> value | Final value |
| Residual imbalance Outside of wheel rim | Grammes | Initial value | Final value | Initial <br> value | Final value | Initial value | Final value | Initial value | Final value |
| Variation in radial force Harmonic 1 | Newtons (N) | Initial value | Final value | Initial <br> value | Final value | Initial value | Final value | Initial value | Final value |
| Maximum lateral out-of-true of the wheel rim | mm |  |  |  |  |  |  |  |  |
| Out-of-round / Maximum radial out-of-true of the wheel rim | mm |  |  |  |  |  |  |  |  |


| Suggested position on vehicle | "Minimise vibration" programme | N/S/F N/S/R | $\begin{aligned} & \mathrm{O} / \mathrm{S} / \mathrm{F} \\ & \mathrm{O} / \mathrm{S} / \mathrm{R} \end{aligned}$ | N/S/F <br> N/S/R | $\left\lvert\, \begin{aligned} & \mathrm{O} / \mathrm{S} / \mathrm{F} \\ & \mathrm{O} / \mathrm{S} / \mathrm{R} \end{aligned}\right.$ | $\begin{array}{\|l\|l} \mathrm{N} / \mathrm{S} / \mathrm{F} \\ \mathrm{~N} / \mathrm{S} / \mathrm{R} \end{array}$ | $\left\lvert\, \begin{aligned} & \mathrm{O} / \mathrm{S} / \mathrm{F} \\ & \mathrm{O} / \mathrm{S} / \mathrm{R} \end{aligned}\right.$ | N/S/F <br> N/S/R | $\begin{aligned} & \mathrm{O} / \mathrm{S} / \mathrm{F} \\ & \mathrm{O} / \mathrm{S} / \mathrm{R} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Check the values obtained:

- If the value of the variation in the "Harmonic 1" radial force is less than 60 N for at least 2 wheels at the end of the optimisation cycle and all of the residual imbalance values after balancing are less than 5 grammes per sid (inside/outside) of the wheel rim : Save the complete measurement report then continue with repair 3.2
- If the value of the variation in the "Harmonic 1" radial force is more than 60 N for at least 3 wheels at the end o the optimisation cycle and all of the residual imbalance values after balancing are less than 5 grammes per sid (inside/outside) of the wheel rim : Replace the tyre or the set of tyres depending on the wear. Continue the repair 3.2
- Refit the front and rear wheels


## Observe:

- The recommendations of the wheel balancer concerning the positioning on the vehicle, checking the feasibility (wear, direction of rotation of the tyres, etc.)
- The orientation on the hub, with the tyre valve at "12 o'clock"

CAUTIION : Observe the procedure for tightening the wheels according to the type of wheel rim

## Alloy wheel

- Position by hand, without tightening, 2 bolts for steel wheel rims, positioned diametrically opposite to each other, with the wheels raised
- Turn the wheels to position the mark made on the tread at "12 o'clock"
- Tighten by hand the 2 bolts for steel wheel rims
- Refit 2 original bolts for alloy wheels in the free locations
- Pre-tighten the 2 original bolts to 5 daN.m, with the wheels raised
- Remove the 2 bolts intended for steel wheels
- Refit and pre-tighten the 2 original bolts for alloy wheels to 5 daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Steel wheel :

- Position by hand, without tightening, the 4 bolts, with the wheels raised
- Turn the wheels to position the mark made on the tread at "12 o'clock"
- Pre-tighten the 5 original bolts to daN.m, with the wheels raised
- Place the wheels in light contact with the ground


## DS 7 CROSSBACK (X74)

Tighten the wheel bolts in a star formation to the required torque.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
Adjust the pressure of the tyres in accordance with the values recommended by the manufacturer.
Carry out a road test (above $90 \mathrm{~km} / \mathrm{h}$ ) to increase the temperature of the tyres :

- If the angular vibration of the steering wheel is still present : Carry out repair 4
- If the angular vibration of the steering wheel has disappeared : The repair is complete


### 2.4.4. Repaiir 4 : Replacemment of the fromt suspension components

## DS 7 CROSSBACK (X74)

Replace the front right-hand and left-hand hub carriers.
Additional parts which must always be replaced( per side) :

- 1 Steering ball-joint nut
- 1 Front hub carrier ball-joint nut
- 1 Driveshaft nut
- 2 Hub carrier bolt
- 2 Hub carrier nuts

In addition, carrying out this repair requires the following operations to be carried out :

- Observe the safety and cleanliness recommendations
- Remove the front body height sensor (depending on equipment)
- Observe the front axle tightening torques
- Observe the braking system tightening torques
- Observe the steering tightening torques
- Observe the driveshaft tightening torques
- Observe the wheel tightening torque
- Refit the front body height sensor (depending on equipment)

Replace the driveshafts.
Additional parts which must always be replaced(manual gearbox) :

- 1 Gearbox drain cap seal
- 1 Driveshaft lip seal (For one side)

Additional parts which must always be replaced: None.
In addition, carrying out this repair requires the following operations to be carried out :

- Observe the tightening torques
- Pre-tighten the driveshaft nuts to $6 \pm 0,6$ daN.m


Figure: B3FU00XD
Tighten the driveshaft nuts at an angle of $90 \pm 5^{\circ}$; Using the tool [4069-T].
DS 7 CROSSBACK (X74)
Check and adjust the suspension geometry.
Additional parts which must always be replaced : None.
In addition, carrying out this repair requires the following operations to be carried out : None.
In addition, carrying out this repair requires the following operations to be carried out :

- Observe the safety and cleanliness recommendations
- Compress the front suspension until the calculated value "H1" is obtained
- Compress the rear suspension until the value " H 2 " is obtained


### 2.5. Repaiir time

## DS 7 CROSSBACK (X74)

Check + Repair 1 :

- Invoicing time : 2,60H
- Operation code : 9R25RP00
- Cause code : 2001

Repair 1 + repair 2.1 :

- Invoicing time : 4,90H
- Operation code : 9R48RP00
- Cause code : 2001

Repair 1 + repair 2.1 + repair 2.2 :

- Invoicing time : 6,50H
- Operation code : 9R64RP00
- Cause code : 2001

Repair 1 + repair 3.1 :

- Invoicing time : 6,10H
- Operation code : 9R60RP00
- Cause code : 2002

Repair 1 + repair 3.1 + repair 3.2 :

- Invoicing time $: 8,00 \mathrm{H}$
- Operation code : 9R79RP00
- Cause code : 2002

Repair 1 + Repair 3.1 + Repair 3.2 + Repair 4 :

- Invoicing time : $12,60 \mathrm{H}$
- Operation code : 9R0ZRP00
N.B. : Send a Dealer Issue Detection Incident (DID I) in the event of any recurrence following the application of thi: document

