

ELECTRIC ACTUATOR SET

for 1/14 SCALE R/C TIPPER TRUCK



作る前にかねらずお読みください。

Read before assembly.

Erst lesen - dann bauen.

Lire avant assemblage.

★お買い求めの際、また組立ての前には必ず内容をお確かめください。万一不良部品、不足部品などありました場合には、お買い求めの販売店にご相談ください。

★小さなビス、ナット類が多く、よく似た形の部品もあります。図をよく見てゆっくり確実に組んでください。金具部品は少し多目に入っています。予備として使ってください。

このマークはグリスを塗る部分に指示しました。必ず、グリスアップして、組みこんでください。

※の部品はセットには含まれていません。

Parts marked ※ are not in set.

Teile mit ※ sind im Bausatz nicht enthalten.

Les pièces marquées ※ ne sont pas incluses dans le kit.

★Study the instructions thoroughly before assembly.

★There are many small screws, nuts and similar parts. Assemble them carefully referring to the drawings. To prevent trouble and finish the model with good performance, it is necessary to assemble each step exactly as shown.

Apply grease to the places shown by this mark.
Apply grease first, then assemble.

★Vor Baubeginn die Bauanleitung genau durchlesen.

★Viele kleine Schrauben und Muttern etc. müssen genau der Anleitung nach eingebaut werden. Exaktes Bauen bringt ein gutes Modell mit bester Leistung.

Stellen mit diesem Zeichen erst fetten, dann zusammenbauen.

★Assimilez les instructions parfaitement avant l'assemblage.

★Il y a beaucoup de petites vis, d'écrous et de pièces similaires. Les assembler soigneusement en se référant aux dessins. Pour éviter les erreurs suivre les stades du montage dans l'ordre indiqué.

Graisser les endroits indiqués par ce symbole.
Graisser d'abord, assembler ensuite.

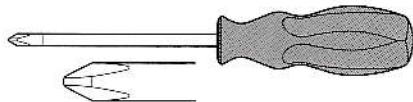
《用意する工具》

RECOMMENDED TOOLS

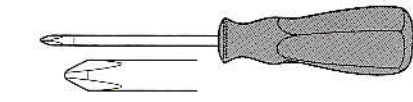
BENÖTIGTE WERKZEUGE

OUTILLAGE

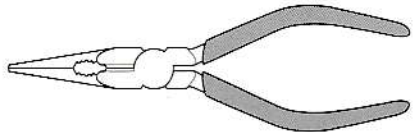
+ドライバー (大)
+ Screwdriver (large)
+ Schraubenzieher (groß)
Tournevis + (grand)



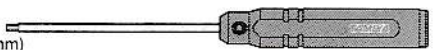
+ドライバー (小)
+ Screwdriver (small)
+ Schraubenzieher (klein)
Tournevis + (petit)



ラジオベンチ
Long nose pliers
Flachzange
Pincés à becs longs



六角レンチ (1.5mm, 2.5mm)
Hex wrench (1.5mm, 2.5mm)
Imbusschlüssel (1.5mm, 2.5mm)
Clé Allen (1.5mm, 2.5mm)



★この他に、ノギスや柔らかい布があると便利です。

★A soft cloth and caliper will also assist in construction.

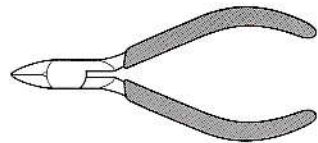
★Beim Zusammenbau können ein weiches Tuch und ein Meßschieber hilfreich sein.

★Un chiffon et un pied à coulisse seront également utiles.

クラフトナイフ
Modeling knife
Modellbaumesser
Couteau de modélisme



ニッパー
Side cutters
Seitenschneider
Pincés coupantes



ピンセット
Tweezers
Pinzette
Précettes



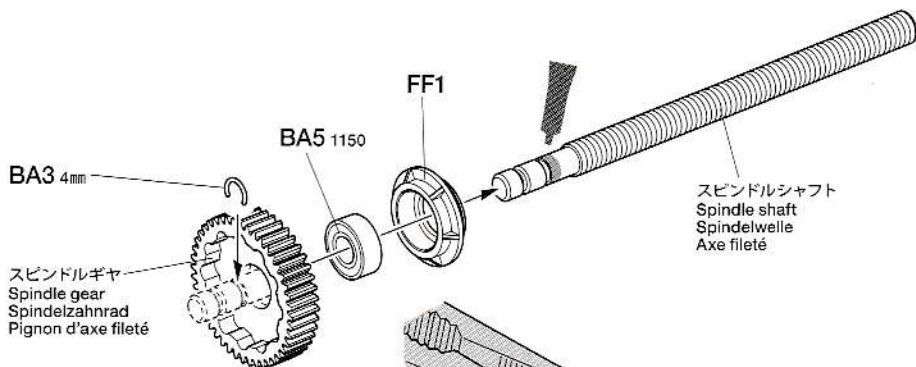
タミヤ瞬間接着剤 (ゼリータイプ)
Tamiya CA Cement (Gel Type)
Tamiya Cyanacrylat-Kleber (Gelförmig)
Colle cyanoacrylate Tamiya (Type Gel)



ネジロック剤
Thread lock
Schraubensicherung
Frein-filet



1



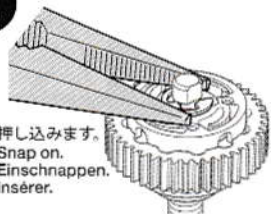
BA3 4mm
×1
C-Ring
Circlip

BA5
×1
1150ベアリング
Ball bearing
Kugellager
Roulement à billes

★スピンドルシャフトのミゾにしっかり取り付けてください。
★Ensure C-ring is fully inserted into spindle shaft indentation.
★Sicherstellen, dass der C-Ring komplett in die Ausnehmung der Spindelwelle eingesetzt ist.
★S'assurer que le circlip est inséré à fond dans la rainure de l'axe fileté.

2

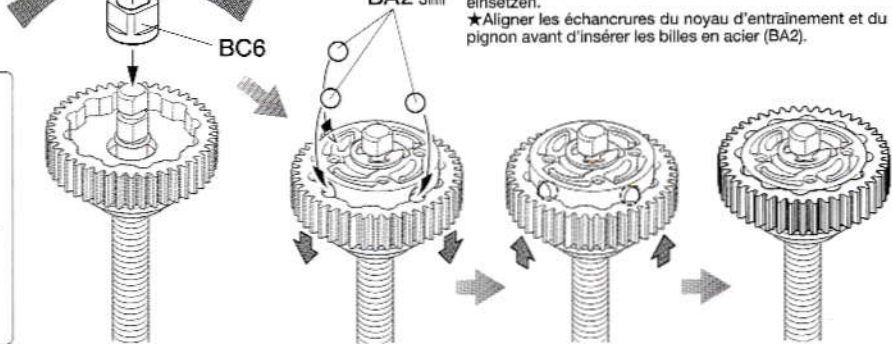
- ★押し込みます。
- ★Snap on.
- ★Einschnappen.
- ★Insérer.



BD6 4mm
ドライブコア
Drive core
Antriebssteil
Noyau d'entraînement

- ★スピンドルギヤのミゾとドライブコアのミゾを合わせて、BA2(3mmスチールボール)を押し込みます。
- ★Align indentations on drive core and spindle gear before pushing in steel balls (BA2).
- ★Vertiefungen im Antriebssteil und in der Spindelwelle zur Deckung bringen und erst dann die Stahlkugeln (BA2) einsetzen.
- ★Aligner les échancres du noyau d'entraînement et du pignon avant d'insérer les billes en acier (BA2).

- BA2 3mmスチールボール
Steel ball
Stahlkugel
Bille en acier
- BC6 スピンドルストッパー
Spindle stopper
Anschlag der Spindelwelle
Butée d'axe fileté
- BD6 4mmEリング
E-Ring
Circlip



3

- 六角棒レンチ (2mm)
Hex wrench (2mm)
Imbusschlüssel (2mm)
Clé Allen (2mm)

BC1 3×5mm

ACUモーター
ACU motor
ACU Motor
Moteur de ACU

警告ステッカー①
Warning sticker
Vorsicht Sticker
Sticker de precaution

BC1 3×5mm六角丸ビス
Screw
Schraube
Vis

BC4 3×4mmイモネジ
Grub screw
Madenschraube
Vis pointeau

BC7 1×1 29Tピニオンギヤ
Pinion gear
Motorritzel
Pignon moteur

- ※ネジロック剤
- ※Thread lock
- ※Schraubensicherung
- ※Frein fillet

このマークはネジロック剤を塗る部分に指示しました。少量をつまようじ等で塗って組み立ててください。
Apply a small amount of Thread Lock to the sections shown by this mark using tools such as toothpicks.
Auf die mit dieser Markierung gekennzeichneten Bereiche mit einem Hilfswerkzeug wie etwa einem Zahnstocher eine geringe Menge Schraubensicherung auftragen.
Appliquer du frein-fillet sur les zones repères par cette icône.

ギヤボックスプレート
Gearbox plate
Getriebedeckel
Plaquette de carter

BC7 29T

BC4 3×4mm

- ※六角棒レンチ (1.5mm)
- ※Hex wrench (1.5mm)
- ※Imbusschlüssel (1.5mm)
- ※Clé Allen (1.5mm)

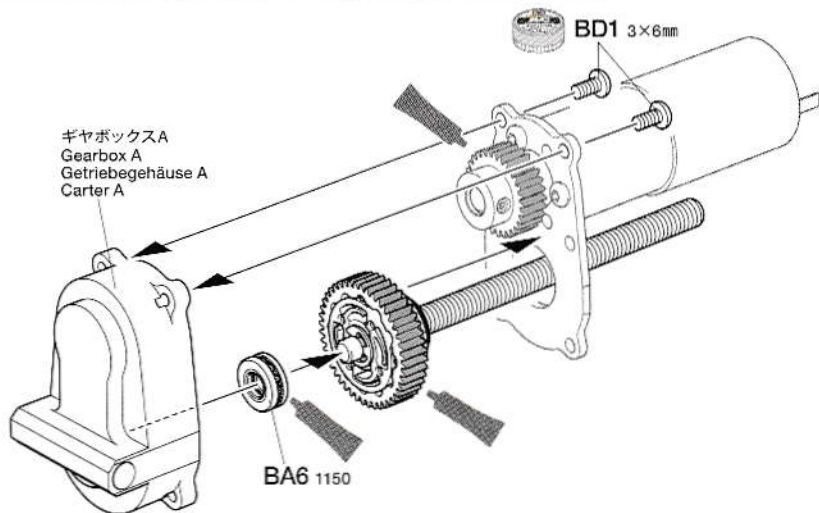
- ★平らな部分に取り付けます。
- ★Firmly tighten on shaft flat.
- ★Auf der flachen Seite des Schaftes festziehen.
- ★Bloquer sur le méplat de l'arbre.

15mm

4

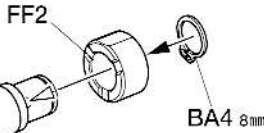
- BA6 1150スラストベアリング
Ball thrust bearing
Druckkugellager
Butée à billes
- BD1 3×6mm丸ビス
Screw
Schraube
Vis

ギヤボックスA
Gearbox A
Getriebegehäuse A
Carter A



5

シリンダーロッド
Cylinder rod
Kolbenstange
Tube fileté

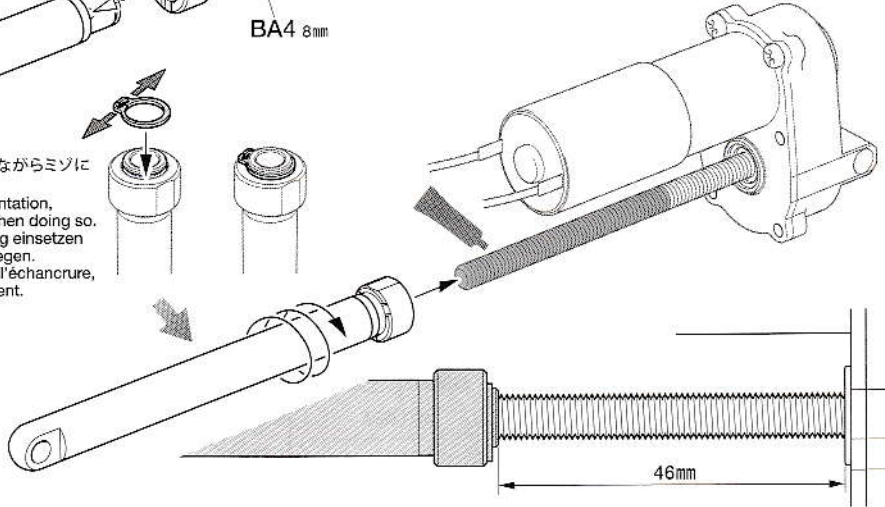


- ★8mmクリップを広げながらミゾに取り付けます。
- ★Insert clip into indentation, pulling lightly apart when doing so.
- ★Clip in die Vertiefung einsetzen und dabei leicht bewegen.
- ★Insérer le clip dans l'échancrure, en l'écartant légèrement.



BA4
×1
8mmクリップ
Clip

- ★シリンダーロッドを図の寸法までネジ込んでください。
- ★Screw in cylinder rod to position shown.
- ★Kolbenstange in der gezeigten Richtung einschrauben.
- ★Visser le tube fileté dans la position montrée.



6

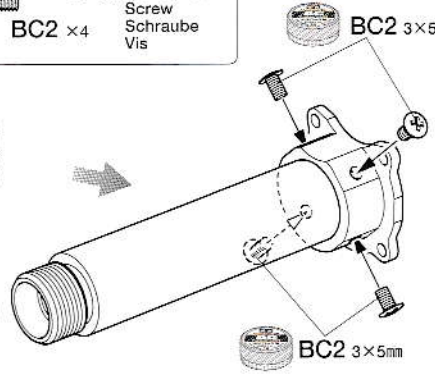
ギヤボックスB
Gearbox B
Getriebegehäuse B
Carter B

シリンダー
Cylinder
Zylinder
Cylindre

3×5mmフラットビス
BC2 ×4
Screw
Schraube
Vis

BC2 3×5mm

- ★ミゾに合わせて入れて、90°回して穴位置を合わせます。
- ★Align indentations and insert, then turn 90 degrees so holes are aligned.
- ★Vorsprünge zueinander passen und einstecken, dann 90 Grad drehen um die Bohrungen zur Deckung zu bringen.
- ★Aligner les rainures et insérer, puis tourner de 90 degrés pour aligner les trous.



7

3×8mm丸ビス
BB1 ×4
Screw
Schraube
Vis

- ※EEパーツ、Yパーツは車輻キットのパーツを使用します。
- ※Use EE and Y parts from truck model kit.
- ※Nutzen Sie EE und Y Teile aus dem Baukasten des Lastwagen Modelles.
- ※Utiliser les pièces EE et Y du kit du modèle de camion.

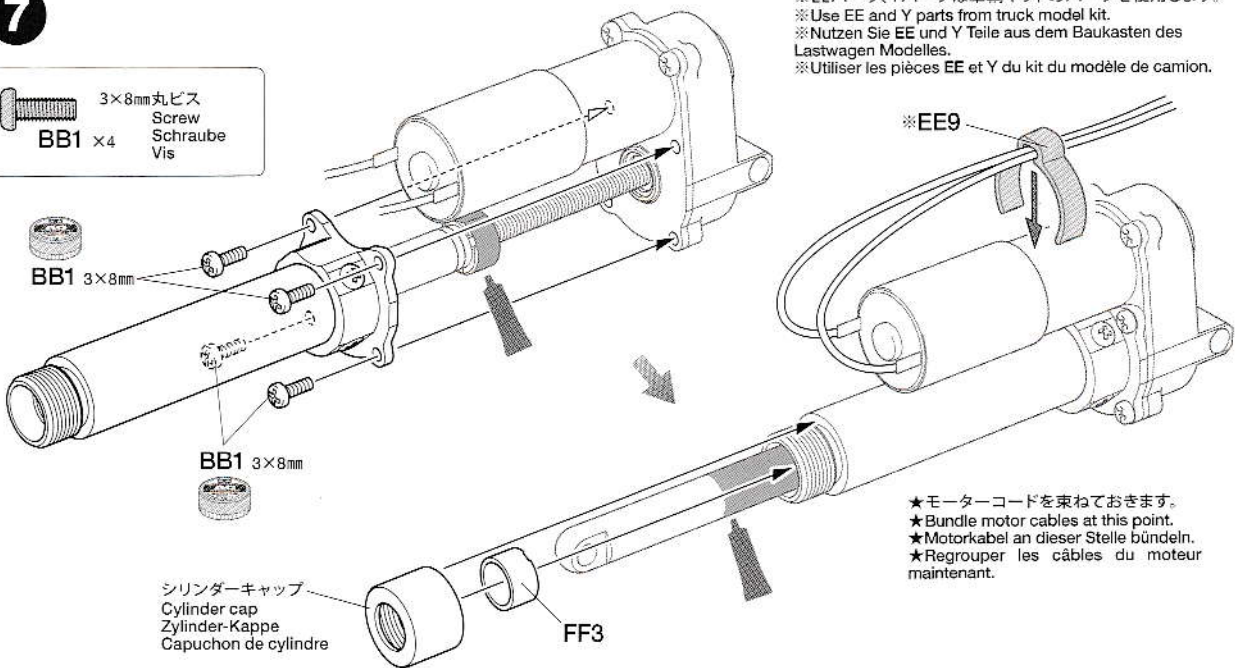
BB1 3×8mm

BB1 3×8mm

シリンダーキャップ
Cylinder cap
Zylinder-Kappe
Capuchon de cylindre

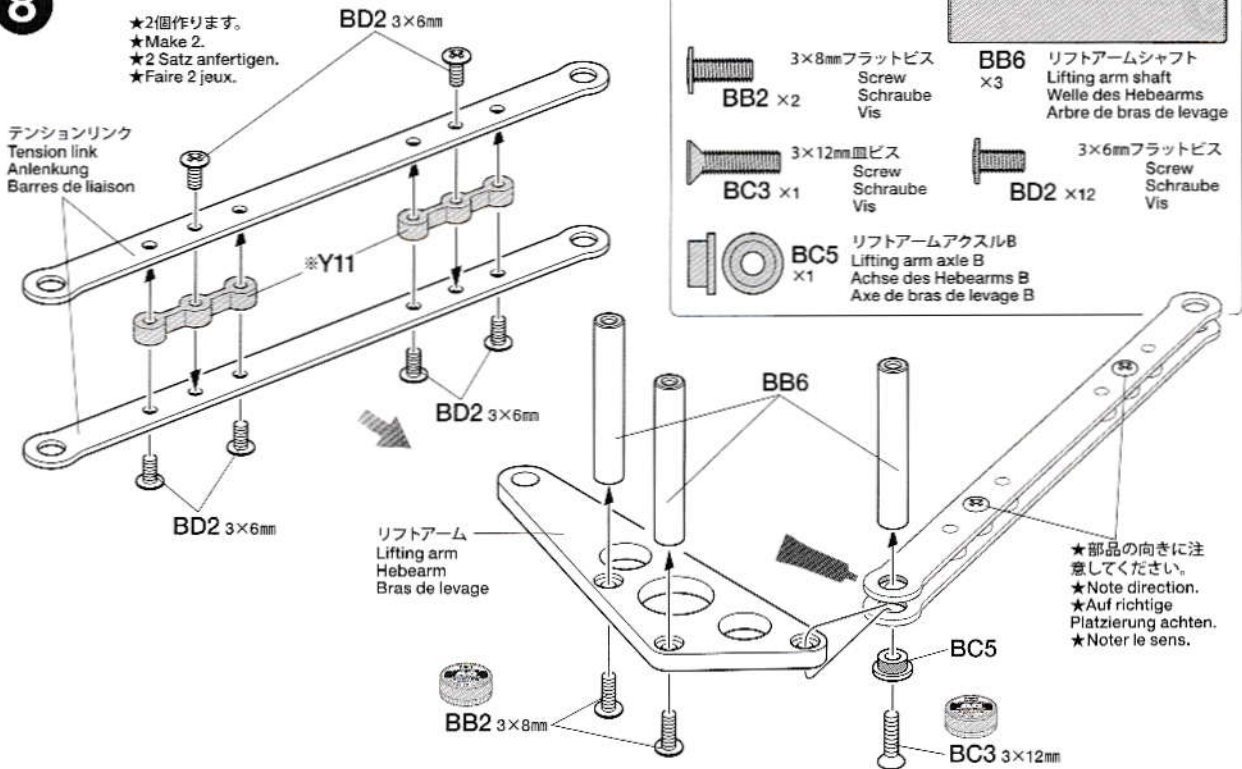
FF3

- ★モーターコードを束ねておきます。
- ★Bundle motor cables at this point.
- ★Motorkabel an dieser Stelle bündeln.
- ★Regrouper les câbles du moteur maintenant.

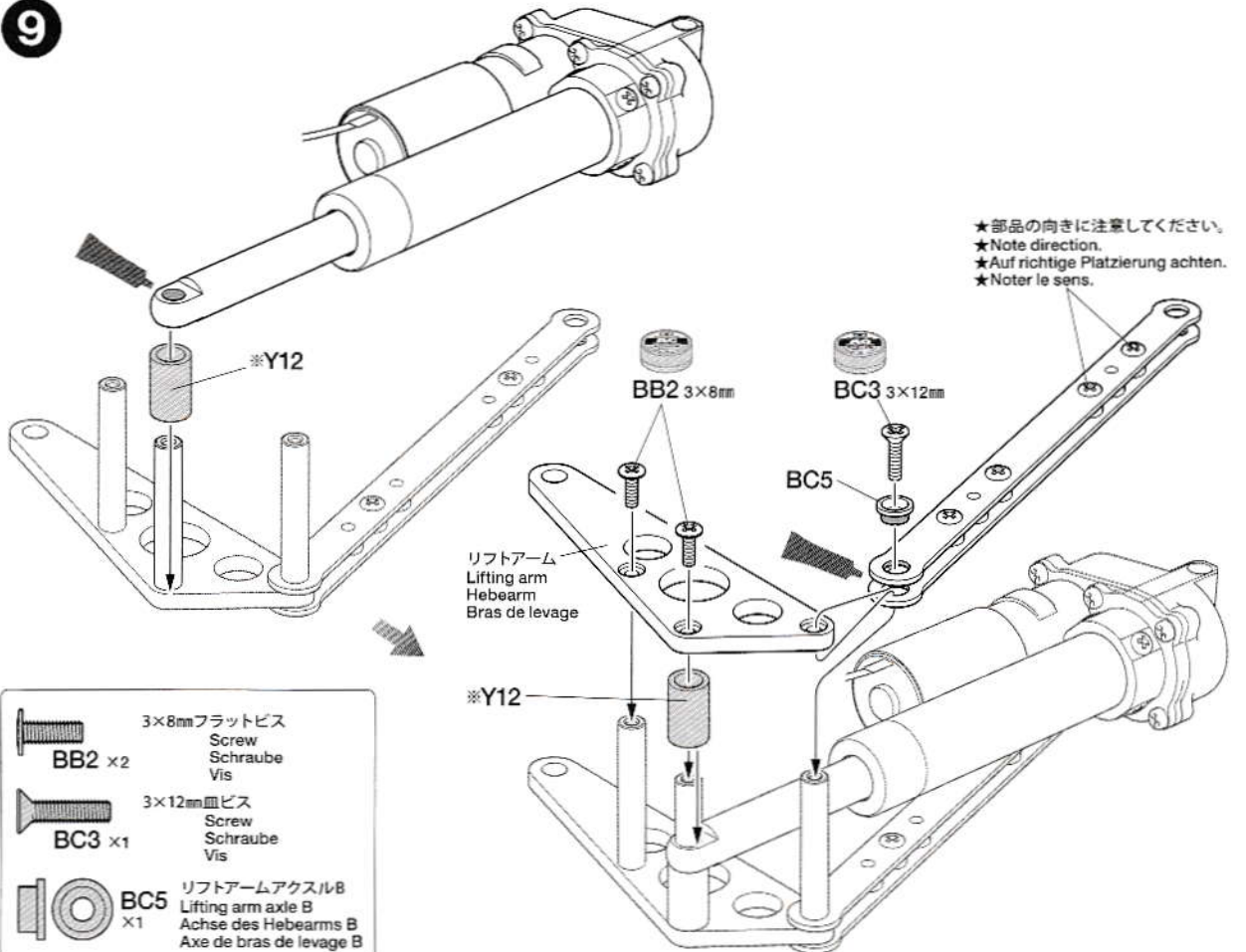


8

- ★2個作ります。
- ★Make 2.
- ★2 Satz anfertigen.
- ★Faire 2 jeux.



9



●メルセデス・ベンツ アロクス3348 6x4

●Installation (Arocs 3348)

●Einbau (Arocs 3348)

●Installation (Arocs 3348)

★完成車輛に搭載する場合には ①～④を参考に荷台、各パーツを取り外します。

★When installing in assembled model, see steps ① to ④ for disassembly of relevant parts.

★Beim Einbau in ein bereits fertiges Modell müssen einige Teile gemäß Bauschritt ① bis ④ ausgebaut werden.

★Pour installer sur le modèle assemblé, voir les étapes ① à ④ pour la dépose des pièces concernées.

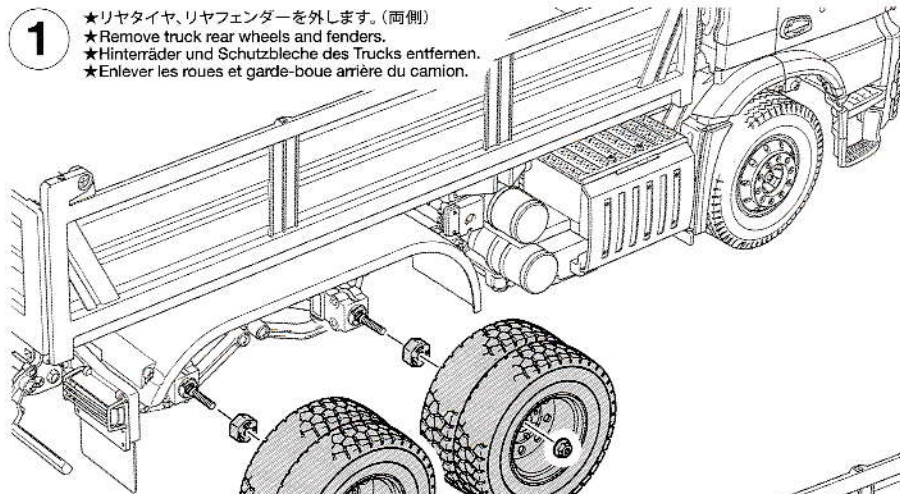
1

★リヤタイヤ、リヤフェンダーを外します。(両側)

★Remove truck rear wheels and fenders.

★Hinterräder und Schutzbleche des Trucks entfernen.

★Enlever les roues et garde-boue arrière du camion.



※リヤホイール
※Rear wheel
※Hinterrad
※Roues arrière

★反対側も外します。

★Repeat for the opposite side.

★Auf der anderen Seite wiederholen.

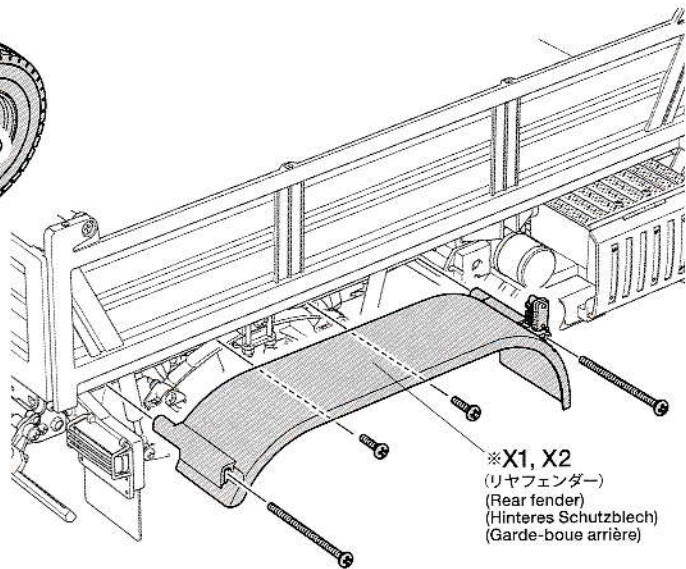
★Répéter l'opération de l'autre côté.

★ 部品、※部品はセットに含まれません。

★Shaded and ※ marked parts are not included in set.

★Schattierte und ※ markierte Teile sind im Bausatz nicht enthalten.

★Les pièces grisées et marquées ※ ne sont pas incluses dans le set.



※X1, X2
(リヤフェンダー)
(Rear fender)
(Hinteres Schutzblech)
(Garde-boue arrière)

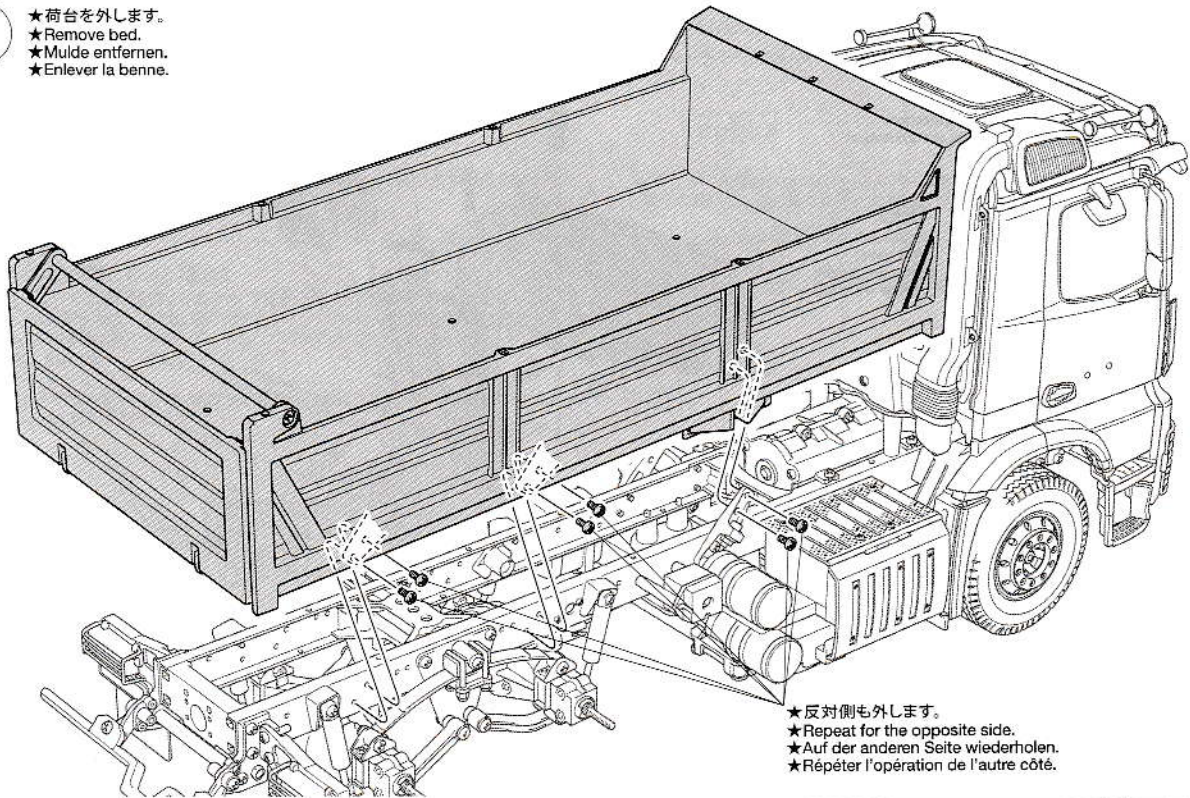
2

★荷台を外します。

★Remove bed.

★Mulde entfernen.

★Enlever la benne.



★反対側も外します。

★Repeat for the opposite side.

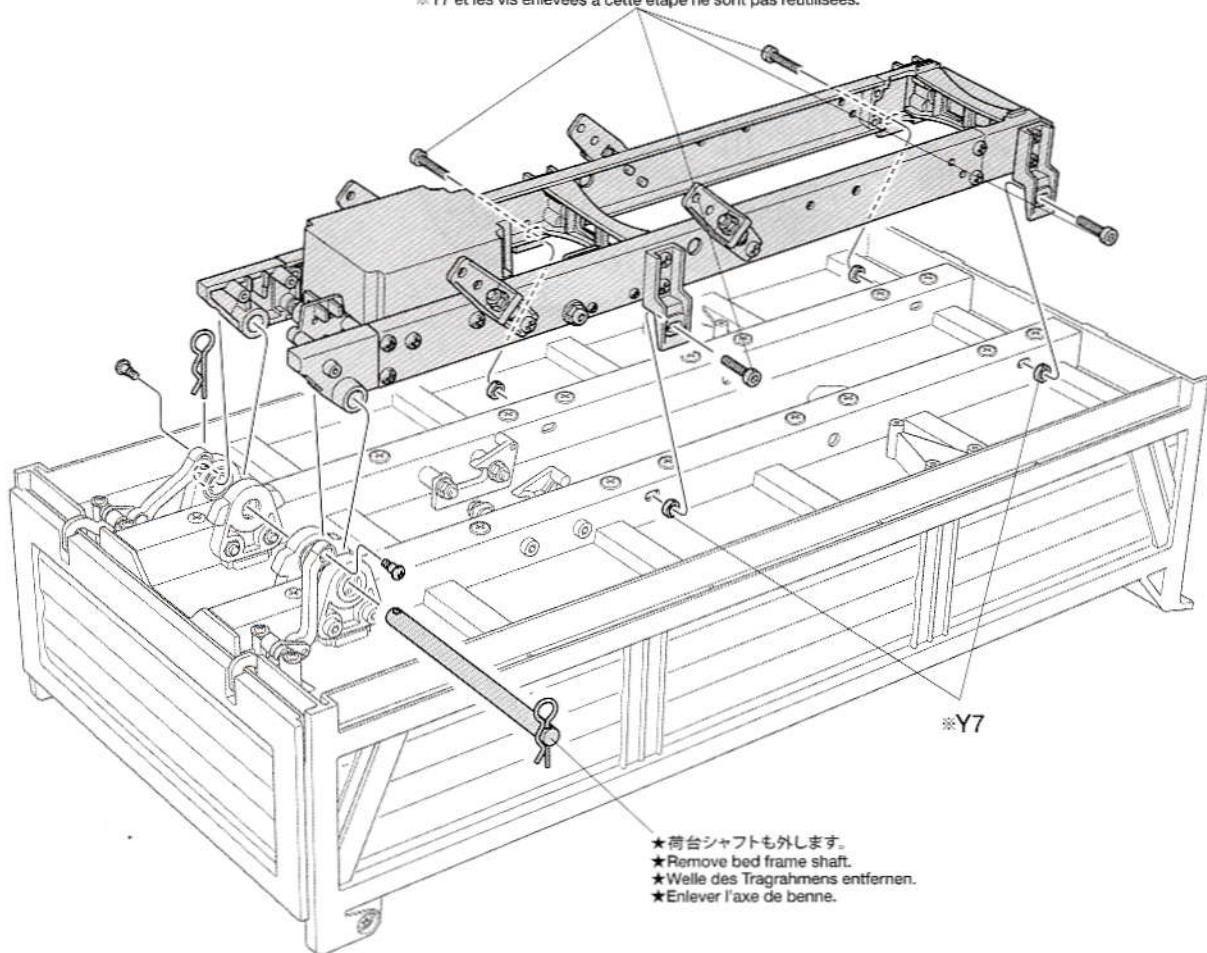
★Auf der anderen Seite wiederholen.

★Répéter l'opération de l'autre côté.

3

- ★サブフレームを外します。
- ★Remove subframe.
- ★Hilfsrahmen entfernen.
- ★Enlever le châssis auxiliaire.

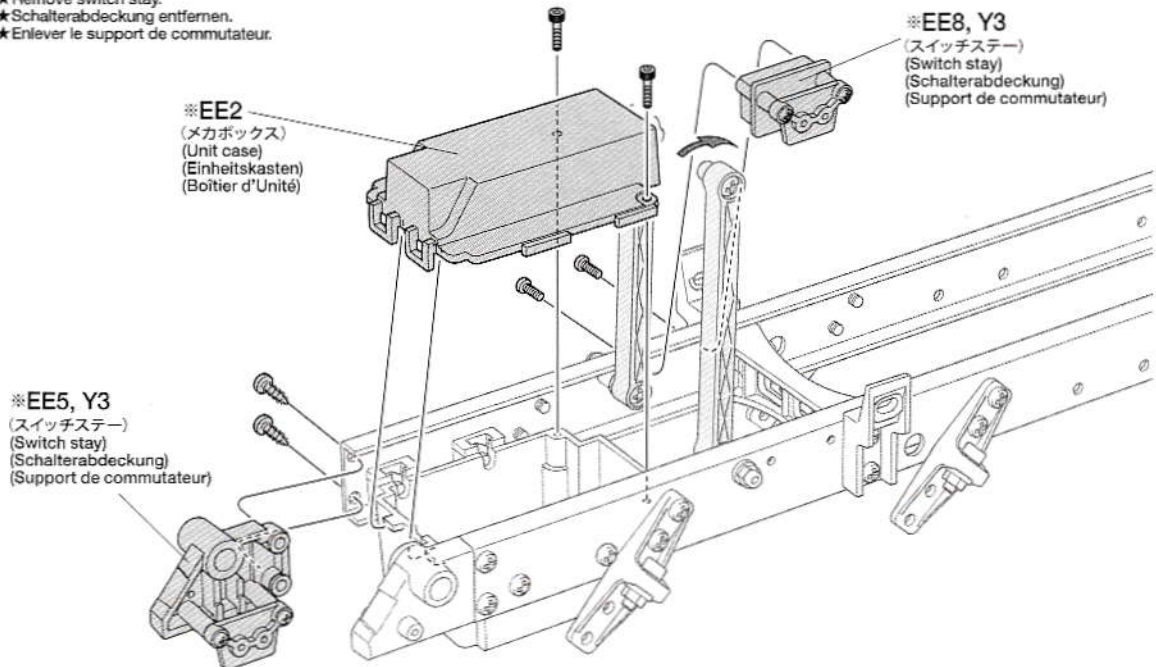
- ※外した3×14mmキャップスクリュー (MG4)、Y7は取付には使いません。
- ※Y7 and screws removed at this step are not used again in attachment.
- ※Die bei diesem Schritt entfernten Y7 und Schrauben werden beim erneuten Zusammenbau nicht mehr benötigt.
- ※Y7 et les vis enlevées à cette étape ne sont pas réutilisées.



- ★荷台シャフトも外します。
- ★Remove bed frame shaft.
- ★Welle des Tragrahmens entfernen.
- ★Enlever l'axe de benne.

4

- ★スイッチステーを外します。
- ★Remove switch stay.
- ★Schalterabdeckung entfernen.
- ★Enlever le support de commutateur.



※EE2
(メカボックス)
(Unit case)
(Einheitskasten)
(Boîtier d'Unité)

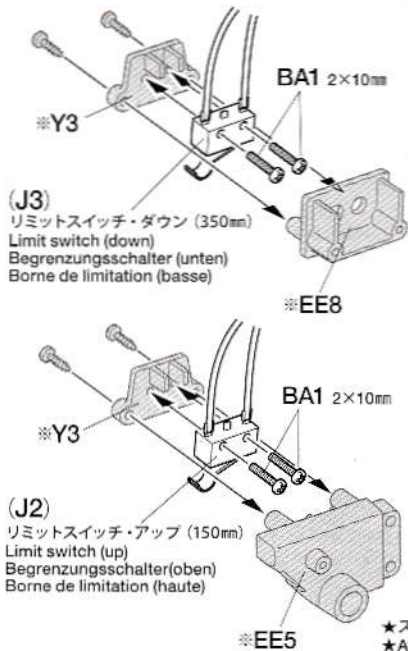
※EE5, Y3
(スイッチステー)
(Switch stay)
(Schalterabdeckung)
(Support de commutateur)

※EE8, Y3
(スイッチステー)
(Switch stay)
(Schalterabdeckung)
(Support de commutateur)

5 リミットスイッチの取り付け
Attaching limit switches
Anbau der Begrenzungsschalter
Fixation des bornes de limitation

BA1 ×4
2×10mm丸ビス
Screw
Schraube
Vis

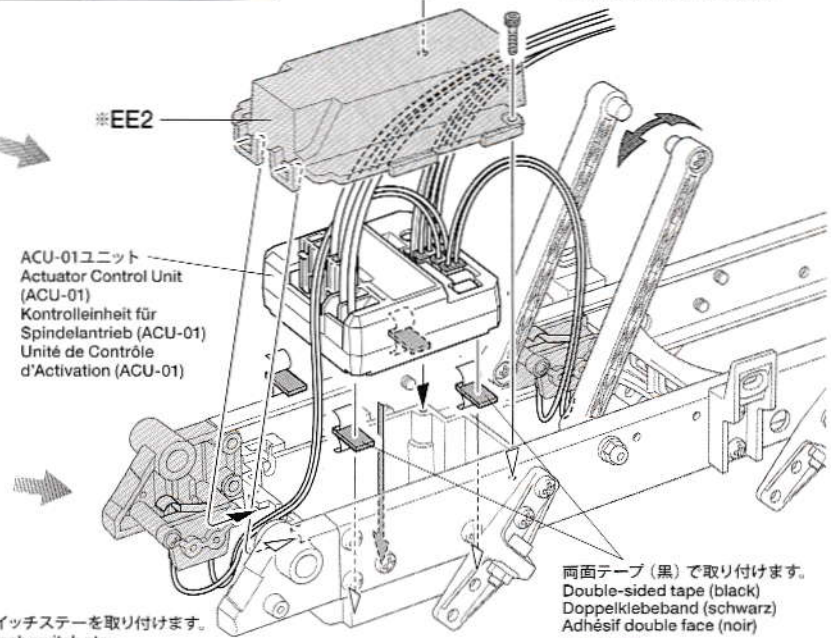
★配線を挟まないように注意。
★Do not pinch cables.
★Kabel nicht einklemmen.
★Ne pas coincer les câbles.



(J3)
リミットスイッチ・ダウン (350mm)
Limit switch (down)
Begrenzungsschalter (unten)
Borne de limitation (basse)

(J2)
リミットスイッチ・アップ (150mm)
Limit switch (up)
Begrenzungsschalter (oben)
Borne de limitation (haute)

★スイッチステーを取り付けます。
★Attach switch stay.
★Schalterabdeckung anbringen.
★Fixer le support de commutateur.



ACU-01ユニット
Actuator Control Unit (ACU-01)
Kontrolleinheit für Spindelantrieb (ACU-01)
Unité de Contrôle d'Activation (ACU-01)

両面テープ (黒) で取り付けます。
Double-sided tape (black)
Doppelklebeband (schwarz)
Adhésif double face (noir)

■ ×4

6 リフトアームの取り付け
Attaching Lifting arm
Anbau der Hebearm
Fixation du Bras de levage

BB4 ×2 3×28mmキャップスクリュー
Cap screw
Zylinderkopfschraube
Vis à tête cylindrique

BB7 ×2 リフトアームアクスルA
Lifting arm axle A
Hebearmache A
Axe de bras de levage A

BD3 ×2 3mmロックナット
Lock nut
Sicherungsmutter
Ecrou de blocage

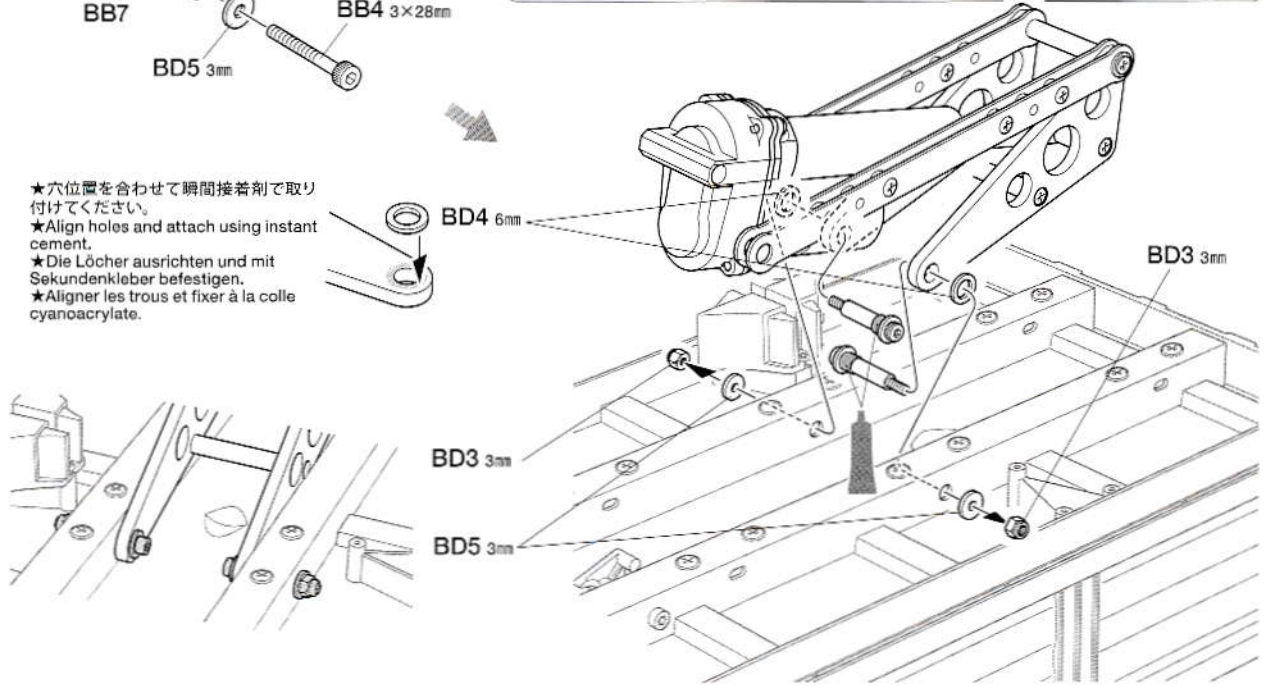
BD4 ×2 6mmワッシャー
Washer
Beilagscheibe
Rondelle

BD5 ×4 3mmワッシャー (大)
Washer (large)
Beilagscheibe (groß)
Rondelle (grand)

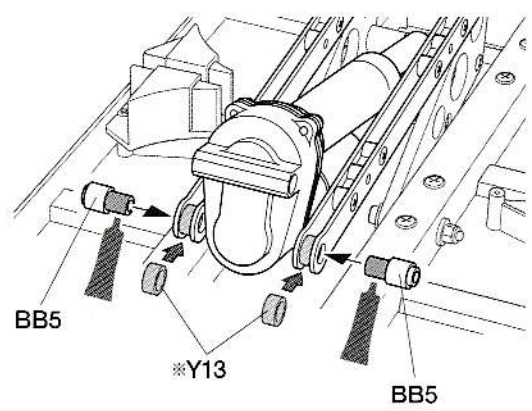
★2個作ります。
★Make 2.
★2 Satz anfertigen.
★Faire 2 jeux.



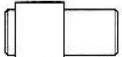




★穴位置を合わせて瞬間接着剤で取り付けてください。
★Align holes and attach using instant cement.
★Die Löcher ausrichten und mit Sekundenkleber befestigen.
★Aligner les trous et fixer à la colle cyanoacrylate.

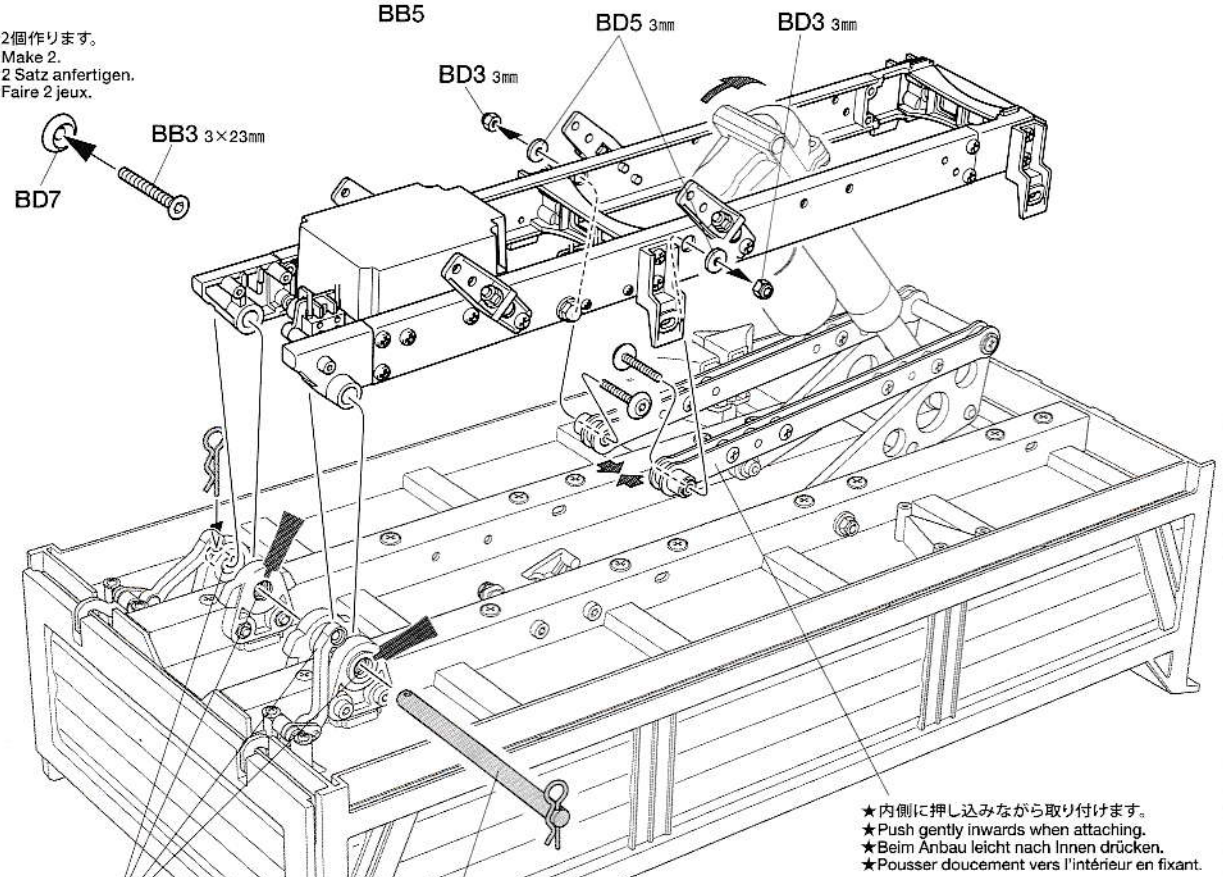


7 サブフレームの取り付け
 Attaching subframe
 Anbau Hilfsrahmen
 Fixation du châssis auxiliaire



	BB3 ×2	3×23mm六角皿ビス Screw Schraube Vis		BD3 ×2	3mmロックナット Lock nut Sicherungsmutter Ecroû de blocage
	BB5 ×2	テンションリンクアクスル Tension link axle Achse der Anlenkung Axe de barres de liaison		BD5 ×2	3mmワッシャー (大) Washer (large) Beilagscheibe (groß) Rondelle (grand)
				BD7 ×2	ロゼットワッシャー Washer Beilagscheibe Rondelle

- ★2個作ります。
- ★Make 2.
- ★2 Satz anfertigen.
- ★Faire 2 jeux.

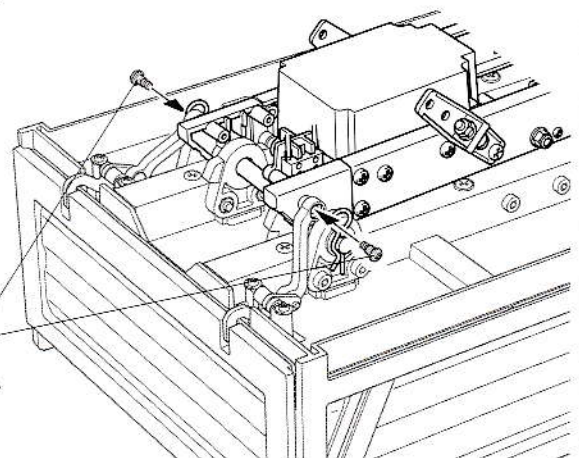


- ★ベアリングに交換しないでください。
- ★Do not use ball bearings.
- ★Kugellager nicht verwenden.
- ★Ne pas utiliser des roulements à billes.

- ★内側に押し込みながら取り付けます。
- ★Push gently inwards when attaching.
- ★Beim Anbau leicht nach Innen drücken.
- ★Pousser doucement vers l'intérieur en fixant.

- ※荷台シャフトを取り付けます。
- ※Attach bed frame shaft.
- ※Welle des Tragrahmens anbauen.
- ※Fixer l'axe de benne.

- ※ゲートロックを取り付けます。
- ※Attach gate locks.
- ※Klappenverriegelungen anbauen.
- ※Fixer les verrous de battant.



8

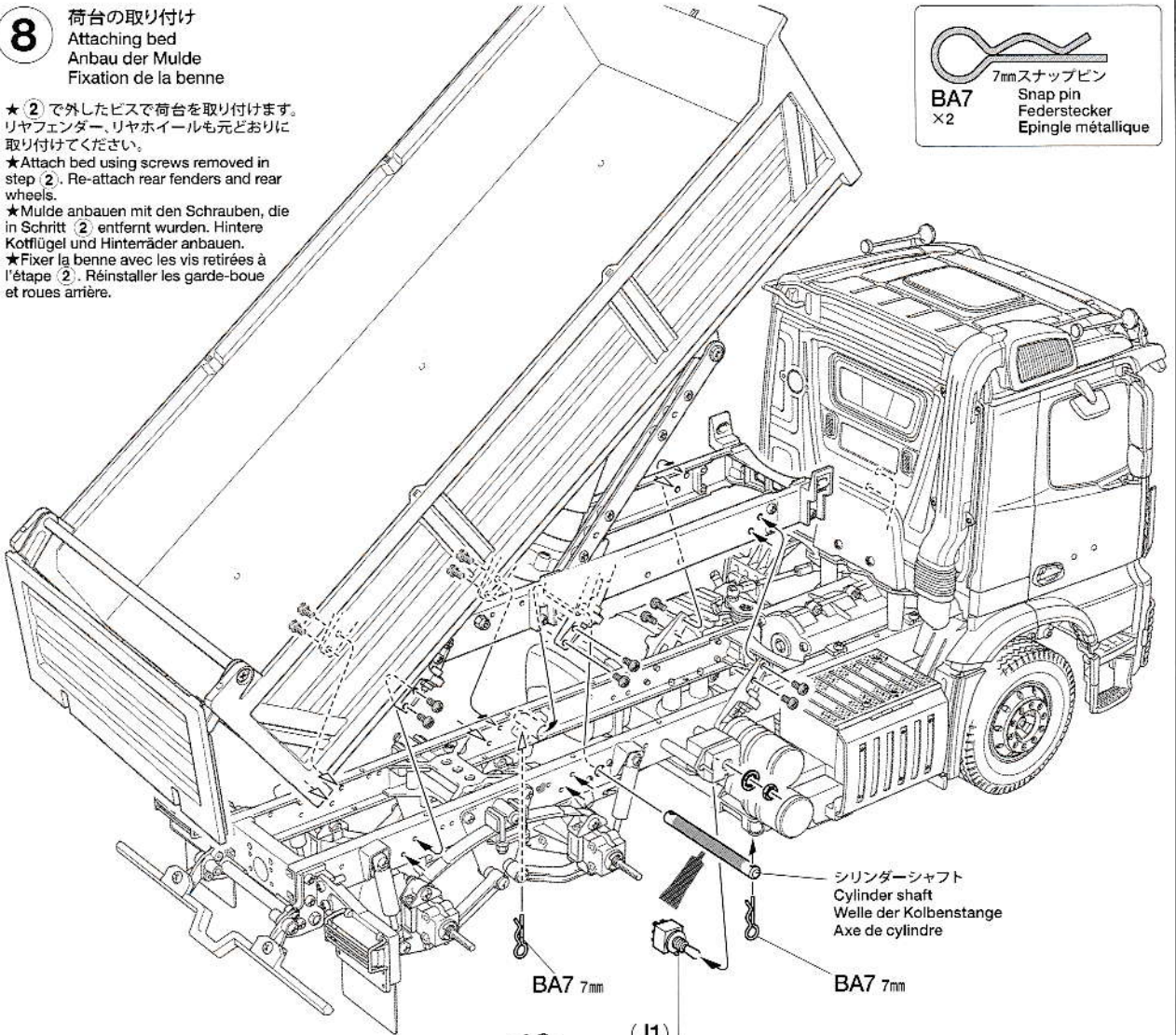
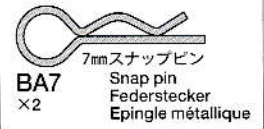
荷台の取り付け
Attaching bed
Anbau der Mulde
Fixation de la benne

★(2)で外したビスで荷台を取り付けます。
リヤフェンダー、リヤホイールも元どおりに
取り付けてください。

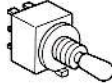
★Attach bed using screws removed in
step (2). Re-attach rear fenders and rear
wheels.

★Mulde anbauen mit den Schrauben, die
in Schritt (2) entfernt wurden. Hintere
Kotflügel und Hinterräder anbauen.

★Fixer la benne avec les vis retirées à
l'étape (2). Réinstaller les garde-boue
et roues arrière.



- ★上下に注意。
★Note direction.
★Auf richtige Platzierung achten.
★Noter le sens.

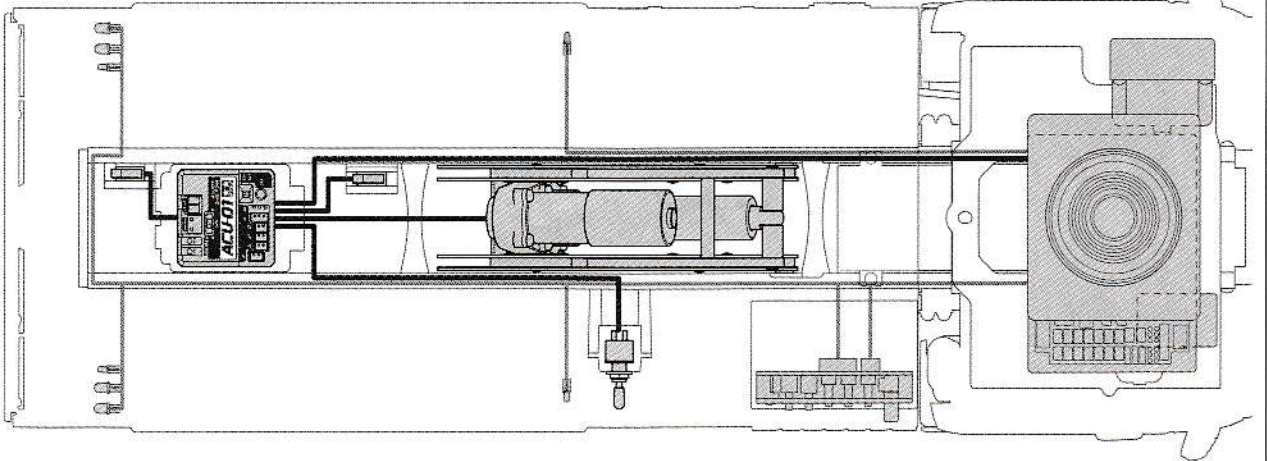
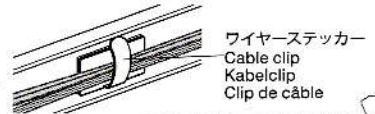


- ★付属のナット、ワッシャーで取り付けます。
★Attach using nut and washer in set.
★Mit Mutter und Unterlegscheibe aus dem Set anbauen.
★Fixer à l'aide de l'écrou et de la rondelle du set.

9

配線チェック
Checking installation
Prüfen des Einbaus
Vérification de l'installation

- ★配線は可動、回転部分に干渉しないように注意してください。
★Ensure that cables do not obstruct moving parts.
★Sicherstellen, dass keine Kabel die beweglichen Teile behindern.
★S'assurer que les câbles ne gênent pas les pièces en mouvement.

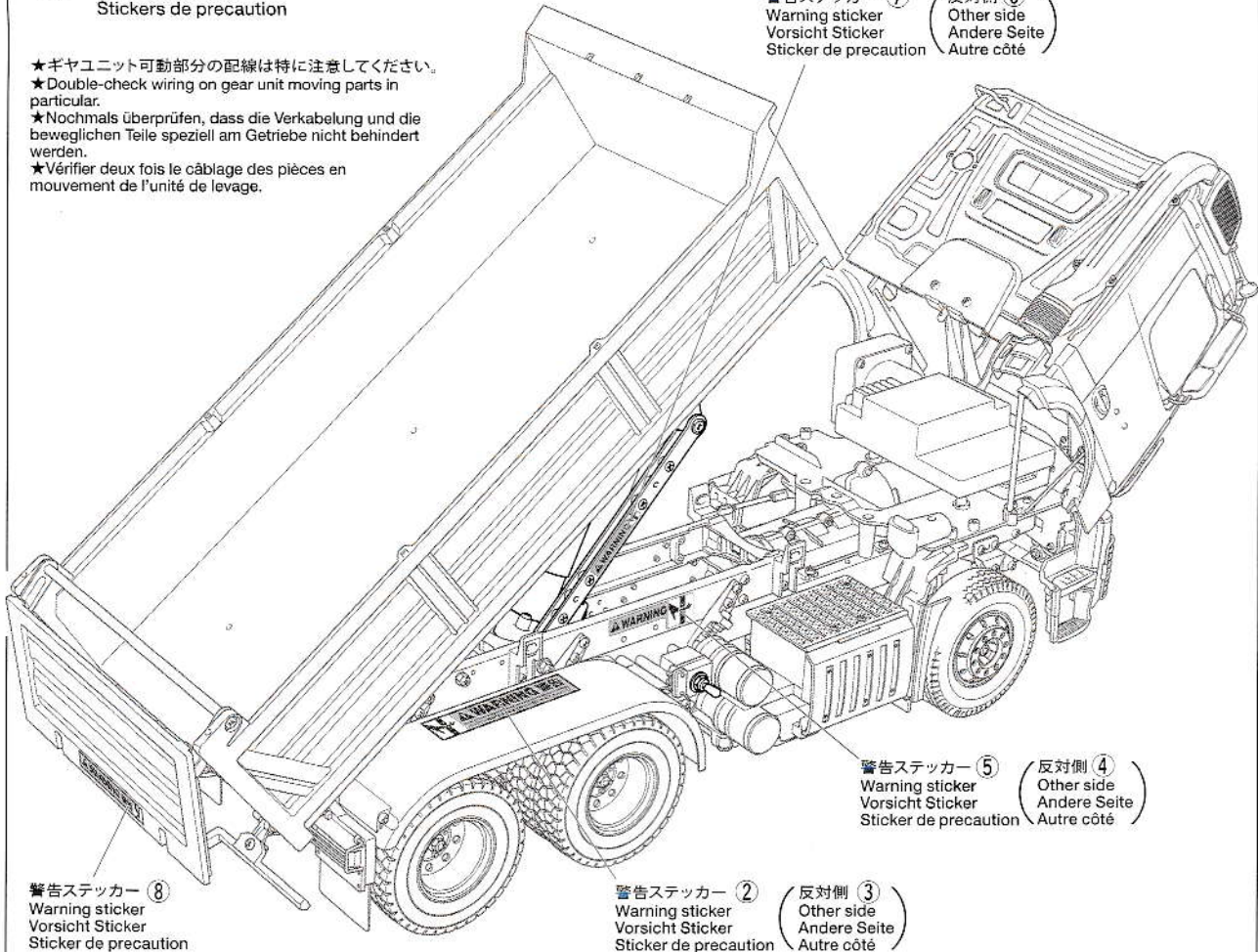


警告ステッカー
Warning stickers
Vorsicht Stickers
Stickers de precaution

- ★ギヤユニット可動部分の配線は特に注意してください。
- ★Double-check wiring on gear unit moving parts in particular.
- ★Nochmals überprüfen, dass die Verkabelung und die beweglichen Teile speziell am Getriebe nicht behindert werden.
- ★Vérifier deux fois le câblage des pièces en mouvement de l'unité de levage.

警告ステッカー ⑦
Warning sticker
Vorsicht Sticker
Sticker de precaution

反対側 ⑥
Other side
Andere Seite
Autre côté



警告ステッカー ⑧
Warning sticker
Vorsicht Sticker
Sticker de precaution

警告ステッカー ②
Warning sticker
Vorsicht Sticker
Sticker de precaution

反対側 ③
Other side
Andere Seite
Autre côté

警告ステッカー ⑤
Warning sticker
Vorsicht Sticker
Sticker de precaution

反対側 ④
Other side
Andere Seite
Autre côté

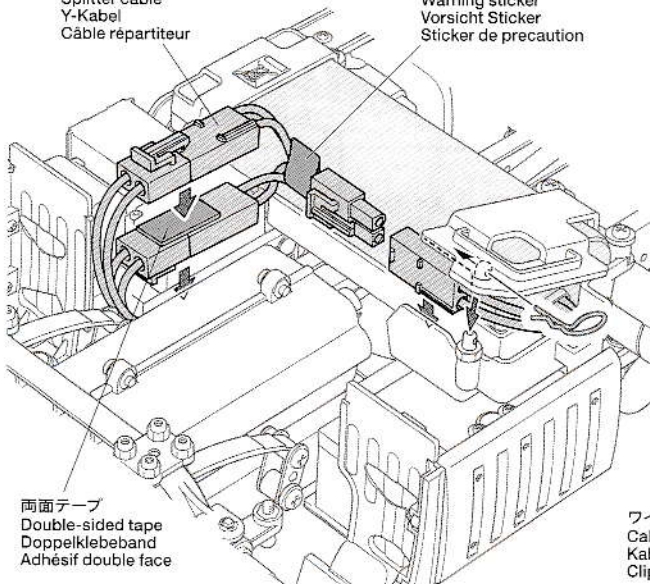
走行用バッテリーの搭載
Installing model battery pack
Einlegen des Fahrzeugakkus
Installation du pack d'accus du modèle

《LFバッテリー》
When using an LF battery pack
Bei Verwendung von LF Akku
Lorsqu'on utilise un pack d'accus LF

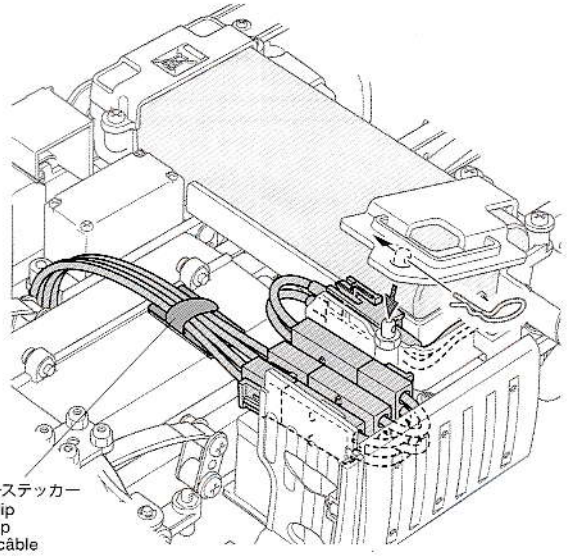
- ★変換コネクターの取り付け位置に注意してください。
- ★Note position of connection adapter cable.
- ★Position des Adapterkabels beachten.
- ★Noter la position du câble d'adaptation.

電源分岐コード
Splitter cable
Y-Kabel
Câble répartiteur

警告ステッカー ⑨
Warning sticker
Vorsicht Sticker
Sticker de precaution



両面テープ
Double-sided tape
Doppelklebeband
Adhésif double face



ワイヤステッカー
Cable clip
Kabelclip
Clip de câble

PARTS

ACU-01ユニットX1
 Actuator Control Unit (ACU-01) 17305115
 Kontrolleinheit für Spindeltrieb (ACU-01)
 Unité de Contrôle d'Activation (ACU-01)

ACUモーター (2435BK64)X1
 ACU motor 17435117
 ACU Motor
 Moteur de ACU

リミットスイッチ・アップ (150mm) ..X1
 Limit switch (up) 19403508
 Begrenzungsschalter(oben)
 Borne de limitation (haute)

リミットスイッチ・ダウン (350mm) ..X1
 Limit switch (down) 19403508
 Begrenzungsschalter (unten)
 Borne de limitation (basse)

電源分岐コードX1
 Branch cable 19403508
 Y-Kabel
 Câble répartiteur

バッテリーコードX1
 Battery cable 19403508
 Batteriekabel
 Câble d'alimentation

サーボ延長コードX1
 Servo extension cable 19403508
 Verlängerungskabel für Servo
 Câble d'extension

トグルスイッチX1
 Toggle switch 19403508
 Kipp-Schalter
 Commutateur

ジャンパー線X1
 Jumper wire 19403508
 Spezialkabel
 Fil de raccordement

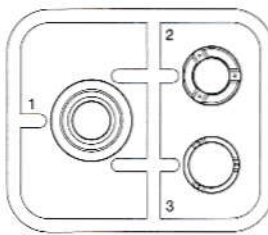
銘板X1
 Panel sticker 19403508
 Beschriftungsaufkleber
 Sticker des fonctions

タグステッカーX1
 Cable tags 19495834
 Fahren an den Kabeln
 Etiquettes de câbles

警告ステッカーX1
 Warning stickers 19403508
 Vorsicht Stickers
 Stickers de precaution



★製品改良のためキットは予告なく仕様を変更することがあります。
 ★Specifications are subject to change without notice.
 ★Technische Daten können im Zuge ohne Ankündigung verändert werden.
 ★Caractéristiques pouvant être modifiées sans information préalable.



スピンドルギヤX1
 Spindle gear 19008214
 Spindelzahnrad
 Pignon d'axe fileté

ドライブコアX1
 Drive core 19008214
 Antriebsteil
 Noyau d'entraînement

ギヤボックスプレート ..X1
 Gearbox plate 19403509
 Getriebedeckel
 Plaque de carter

ギヤボックスAX1
 Gearbox A 19403509
 Getriegehäuse A
 Carter A

ギヤボックスBX1
 Gearbox B 19403509
 Getriegehäuse B
 Carter B

シリンダーシャフトX1
 Cylinder shaft 19403510
 Welle der Kolbenstange
 Axe de cylindre

シリンダーロッドX1
 Cylinder rod 19403510
 Kolbenstange
 Tube fileté

スピンドルシャフトX1
 Spindle shaft 19403510
 Spindelwelle
 Axe fileté

シリンダーX1
 Cylinder 19403506
 Zylinder
 Cylindre

シリンダーキャップX1
 Cylinder cap 19403506
 Zylinder-Kappe
 Capuchon de cylindre

リフトアームX2
 Lifting arm 19403507
 Hebearm
 Bras de levage

セラミックグリスX1
 Ceramic grease 87099
 Keramikfett
 Graisse céramique

テンションリンクX4
 Tension link 19403510
 Anlenkung
 Barres de liaison

《ベアリング袋詰》

Ball bearing bag
 Lager-Beutel
 Sachet de roulements à billes

BA2 3mmスチールボール
 ×3 Steel ball
 53379 Stahlkugel
 Bille en acier

BA3 4mmCリング
 ×1 C-Ring
 19803094 Circlip

BA4 8mmクリップ
 ×1 Clip
 19803095

BA5 ×1 53008
 1150ベアリング
 Ball bearing
 Kugellager
 Roulement à billes

BA6 ×1 51346
 1150スラストベアリング
 Ball thrust bearing
 Druckkugellager
 Butée à billes

六角棒レンチ (2mm)X1
 Hex wrench (2mm) 12990027
 Imbusschlüssel (2mm)
 Clé Allen (2mm)

BA7 7mmスナップピン
 ×2 Snap pin
 50956 Federstecker
 Epingle métallique

BA1 2×10mm丸ビス
 ×4 Screw
 19805868 Schraube
 Vis

《シャフト袋詰》

Shaft bag
 Achsen-Beutel
 Sachet d'axes

BB2 3×8mmフラットビス
 ×4 Screw
 19808189 Schraube
 Vis

BB3 3×23mm六角皿ビス
 ×2 Screw
 19804894 Schraube
 Vis

BB4 3×28mmキャップスクリュー
 ×2 Cap screw
 19804175 Zylinderkopfschraube
 Vis à tête cylindrique

BB5 ×2 19803097
 テンションリンクアクスル
 Tension link axle
 Achse der Anlenkung
 Axe de barres de liaison

BB6 ×3 1903096
 リフトアームシャフト
 Lifting arm shaft
 Welle des Hebearms
 Arbre de bras de levage

BB7 ×2 19803097
 リフトアームアクスルA
 Lifting arm axle A
 Hebearmache A
 Axe de bras de levage A

《ピニオンギヤ袋詰》

Pinion gear bag
 Antriebsritzel-Beutel
 Sachet de pignons

BC2 3×5mmフラットビス
 ×4 Screw
 51211 Schraube
 Vis

BC3 3×12mm皿ビス
 ×2 Screw
 19805977 Schraube
 Vis

BC4 ×1 19485077
 3×4mmイモネジ
 Grub screw
 Madenschraube
 Vis pointeau

BC5 ×2 19803097
 リフトアームアクスルB
 Lifting arm axle B
 Achse des Hebearms B
 Axe de bras de levage B

BC6 ×1 19803098
 スピンドルストッパー
 Spindle stopper
 Anschlag der Spindelwelle
 Butée d'axe fileté

BC7 ×1 19803098
 29Tピニオンギヤ
 Pinion gear
 Motorritzel
 Pignon moteur

《ワッシャー袋詰》

Washer bag
 Beutel für Beilagscheiben
 Sachet de rondelles

BD2 3×6mmフラットビス
 ×12 Screw
 19808228 Schraube
 Vis

BD3 3mmロックナット
 ×4 Lock nut
 19804364 Sicherungsmutter
 Ecrou de blocage

BD4 ×2 19805693
 6mmワッシャー
 Washer
 Beilagscheibe
 Rondelle

BD5 ×6 19805818
 3mmワッシャー (大)
 Washer (large)
 Beilagscheibe (groß)
 Rondelle (grand)

BD6 ×1 50380
 4mmEリング
 E-Ring
 Circlip

BD7 ×2 19805631
 ロゼットワッシャー
 Washer
 Beilagscheibe
 Rondelle

6×8×0.3mmシム / Shim
 Scheibe / Gait
 ★使用しません。 / Not used.
 ★Nicht verwenden. / Non utilisés.

シフトゲート (十字型)X1
 Stick guide (cross) 14305353
 Knüppelführung (Kreuzförmig)
 Guide de manche (en croix)

両面テープ (黒・20×120mm)X1
 Double-sided tape (black) 50171
 Doppelklebeband (schwarz)
 Adhésif double face (noir)

ナイロンバンドX15
 Nylon band 50595
 Nylonband
 Collier en nylon

ワイヤーステッカーX10
 Cable clip 19400429
 Kabelclip
 Clip de câble

調整用ドライバーX1
 Screwdriver 10445789
 Schraubenzieher
 Tournevis

AFTER MARKET SERVICE CARD

When purchasing Tamiya replacement parts, please take or send this form to your local Tamiya dealer so that the parts required can be correctly identified and supplied. Please note that specifications, availability and price are subject to change without notice.

KUNDENNACHBETREUUNGS-KARTE

Wenn Sie TAMIYA-Ersatzteile kaufen möchten, nehmen Sie bitte zur Unterstützung dieses Formular mit zu Ihrem örtlichen Fachhändler. Bezüglich der Angaben, der Lagerhaltung der Artikel und der Preise sind Änderungen vorbehalten.

SERVICE APRES-VENTE

LISTE DE PIECES DETACHEES
Afin de vous permettre de vous procurer des pièces de rechange Tamiya, amenez cette liste à votre point de vente Tamiya qui ne manquera pas de vous renseigner. Veuillez noter que les caractéristiques, disponibilité et prix peuvent changer sans avis préalable.

PARTS CODE

19008214	FF Parts
17305115	ACU-01 Unit
19403508	Cable Bag
17255032	Splitter cable
17435117	ACU Motor
19403506	Cylinder & Cylinder Cap
19403507	Lifting Arm (x2)
19403509	Gearbox Bag
19403510	Tension Link Bag
19805868	2x10mm Screw (BA1 x10)
19803094	4mm C-Ring (BA3 x5)
19803095	8mm Clip (BA4 x5)
19808189	3x8mm Flat Screw (BB2 x5)

19805853 *1	3x8mm Screw (BB1 x5)
19804894	3x23mm Countersunk Head Hex Screw (BD3 x10)
19804175 *1	3x28mm Graft Screw (BB4 x2)
19803096	6x37mm Shaft (BB6 x3)
19803097	Tension Arm Axle, Lifting Arm Axle (A, B) (BB5, BB7, 506 x2 each)
19485077	3x4mm Grub Screw (BC4 x5)
19805990	3x5mm Hex Screw (BC1 x10)
19805977	3x12mm Countersunk Head Screw (BC3 x5)
19803098	Spindle Stopper, 29T Pinion Gear (BC6, BC7 x1 each)
19808228 *2	3x6mm Flat Screw (BD2 x5)
19805636	3x6mm Screw (BD1 x2)
19804364	3mm Lock Nut (BD3 x10)
19805631	3mm Rosette Washer (BD7 x4)
19805818 *1	3mm Washer (Large) (BD5 x5)

19805693	6mm Washer (BD4 x5)
19400429 *2	Wire Sticker (x4)
14305353	Shift Gate (Cross Type)
19495934	Tag Sticker
11056539	Instructions
50380	E-Ring Set (BD6 x5, etc.)
50956	7mm Snap Pin (BA7 x10)
51211	3x5mm Flat Screw (BC2 x5)
51346	Ball Thrust Bearing (BA6)
53008	1150 Ball Bearing (BA5 x4)
53379	3mm Lightweight Differential Ball Set (BA2 x20)
53726	6mm Shim Set (BE1 x10, etc.)
*1	Requires 2 Sets.
*2	Requires 3 Sets.

部品請求について

For use in Japan only!

★部品をなくしたり、こわした方は、このステッカーがはられたカスタマーサービス取次店でご注文いただけます。また、当社カスタマーサービスに直接ご注文する場合は、右記の方法でご注文することができます。詳しくは当社カスタマーサービスまでお問い合わせください。



①《郵便振替のご利用法》

郵便局の払込用紙の通信欄に下のリストを参考にITEM番号、スケール、製品名、部品名、部品コード、数量を必ずご記入ください。振込人住所欄にはお電話番号もお書きいただき、口座番号-00810-9-1118、加入者名(株)タミヤでお振込ください。

②《代金引換のご利用法》

パーツ代金に加えて代引き手数料(300円+税)をご負担いただければ、電話またはホームページより代金引換によるご注文をお受けいたします。

③《タミヤカードのご利用法》

タミヤカードをご利用の場合、代金はご指定金融機関の口座引き落としとなります。ご注文は電話またはホームページよりお受けいたします。

《住所》〒422-8610 静岡県駿河区恩田原3-7
株式会社タミヤ カスタマーサービス係

《お問い合わせ電話番号》

静岡 054-283-0003

東京 03-3899-3765 (静岡へ自動転送)

※電話番号をお確かめの上、おかけ間違いないようお願いいたします。

《カスタマーサービスアドレス》

http://tamiya.com/japan/customer/



1/14 R/C Tractor Trucks
ダンプトラック用 電動アクチュエーターセット
ITEM 56545

★本体価格(税抜き)は2018年3月現在のものです。諸事情により変更となる場合があります。
★ご購入に際しては、本体価格に消費税を加えてください。(小数点以下を切り捨て)

部品名	本体価格	送料	部品コード
FFパーツ、スピンドルギヤ、ドライブコア	1,000円	+税	19008214
ACU-01ユニット	4,500円	+税	17305115
スイッチリミットコード(バッテリー、サーボ、ジャンパー線、電源分岐コード)	2,400円	+税	19403508
電源分岐コード	480円	+税	17255032
ACUモーター (2435BK64)	7,000円	+税	17435117
シリンドラー、シリンドラーキャップ	2,200円	+税	19403506
リフトアーム(x2)	2,700円	+税	19403507
ギヤボックスプレート、ボックスA、B	4,200円	+税	19403509
テンションリンク袋	3,500円	+税	19403510
2x10mm丸ビス(x10)	220円	+税	19805868
4mm Cリング(x5)	340円	+税	19803094
8mmクリップ(x5)	340円	+税	19803095
3x8mm フラットビス(黒x5)	210円	+税	19808189
3x8mm丸ビス(黒x5)	200円	+税	19805853

3x23mm六角皿ビス(黒x10)	320円	+税	19804894
3x28mmキャップスクリュー(x2)	180円	+税	19804175
6x37mmリフトアームシャフト(x3)	680円	+税	19803096
テンションリンクアクスル、リフトアームアクスルA、B(各x2)	740円	+税	19803097
3x4mmイモネジ(x6)	230円	+税	19485077
3x5mm六角丸ビス(x10)	230円	+税	19805990
3x12mm皿ビス(黒x5)	190円	+税	19805977
スピンドルストップパー、29Tピニオン(各x1)	1,500円	+税	19803098
3x6mmフラットビス(x5)	260円	+税	19808228
3x6mm丸ビス(x2)	160円	+税	19805636
3mmロックナット(黒x10)	310円	+税	19804364
ロゼットワッシャー(x4)	170円	+税	19805631
3mmワッシャー(大x5)	200円	+税	19805818
6mmワッシャー(x5)	170円	+税	19805693
ワイヤーステッカー(x4)	250円	+税	19400429
シフトゲート	280円	+税	14305353
タグステッカー	500円	+税	19495934
説明図	600円	+税	11056539
SP.380 4mmEリング(x5)、他	100円	+税 要	50380
SP.956 7mmスナップピン(x10)	200円	+税 要	50956
SP.1211 3x5mmフラットビス(x5)	100円	+税 要	51211
SP.1346 スラストベアリング	500円	+税 要	51346
OP.8 1150ベアリング(x4)	1,200円	+税 要	53008
OP.379 3mm軽量デフボール(x20)	600円	+税 要	53379
OP.726 6x8x0.3mmシム(x10)、他	650円	+税 要	53726

(送料について) 送料の欄に「要」と記された品目には別途送料が必要です。タミヤホームページ、カスタマーサービスの「送料について」をご確認ください。

保証書

製品名
1/14RC ダンプトラック用電動アクチュエーターセット

お客様ご住所

お客様氏名

お客様電話番号

保証期間●お買上時から6ヶ月

★Effective in Japan only. お買上日/ 年 月 日

販売店印

※販売店印とお買上年月日の記入が無いものは無効

《保証規定》

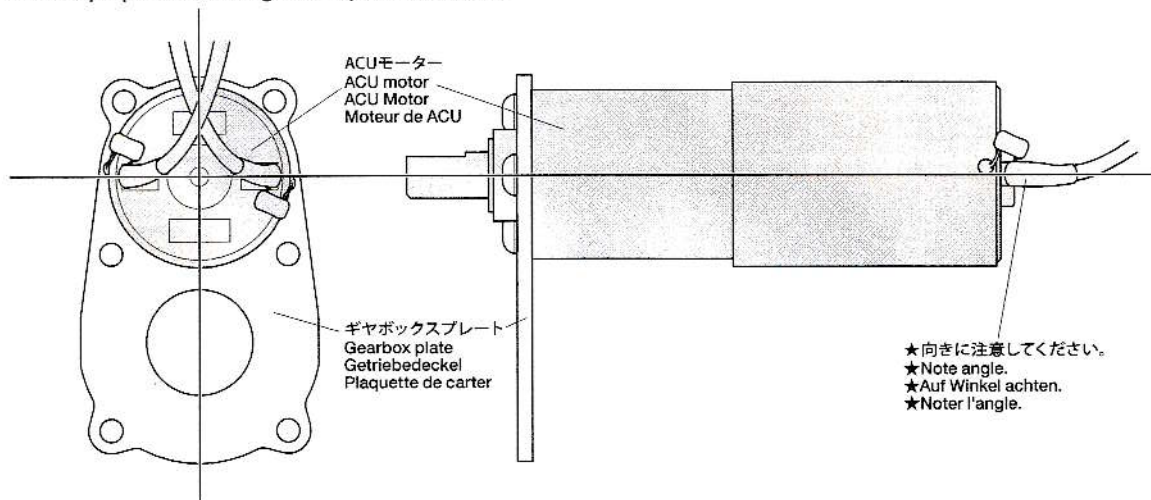
- この保証書はACU-01コントロールユニットを保証いたします。
 - 取扱説明書に従った正常な使用状態で故障した場合は、無料で修理をいたします。
 - 次のような場合は、保証期間内でも有料とさせていただきます。
 - ① 使用上の誤りや操作の間違ひによると認められる故障(電源の逆接続、水濡れ、衝突などによる故障や損傷)。
 - ② 機械的、電気的な変更や改造、分解をした場合。
 - ③ 車体にタミヤ純正パーツ以外の部品を装着して走行させた場合。
 - ④ 指定以外のモーターや電源(バッテリー)を使用した場合。
 - ⑤ お買い上げ後の輸送や移動時の落下などによる故障や損傷。
 - ⑥ 保管上の不備(高温、多湿、ナフタリンその他の薬品など、製品に損傷を与える場所での保管)や手入れの不備による故障や損傷。
 - ⑦ 火災や地震、その他災害による場合。
 - ⑧ 修理の際に、保証書が添えられていない場合。
 - ⑨ 保証書にお買い上げ店印、お買い上げ年月日のない場合や、それらの文字を書き換えた場合。
 - 修理依頼の際の送料は、お客様にご負担をお願いいたします。
 - この保証書は日本国内においてのみ有効です。
 - この保証書は再発行しませんので大切に保管してください。
※故障修理を依頼される場合は、この保証書を添えて、その故障状況をできるだけ詳しくお教えください。修理箇所を早く確実に知ることができ、修理期間が短くなります。
- 《住所》〒422-8610 静岡県駿河区恩田原3-7 (株) タミヤ・カスタマーサービス係
《お問い合わせ電話番号》静岡 054-283-0003 東京 03-3899-3765(静岡へ自動転送)

《補足》 SUPPLEMENTARY INSTRUCTION

P42 ③

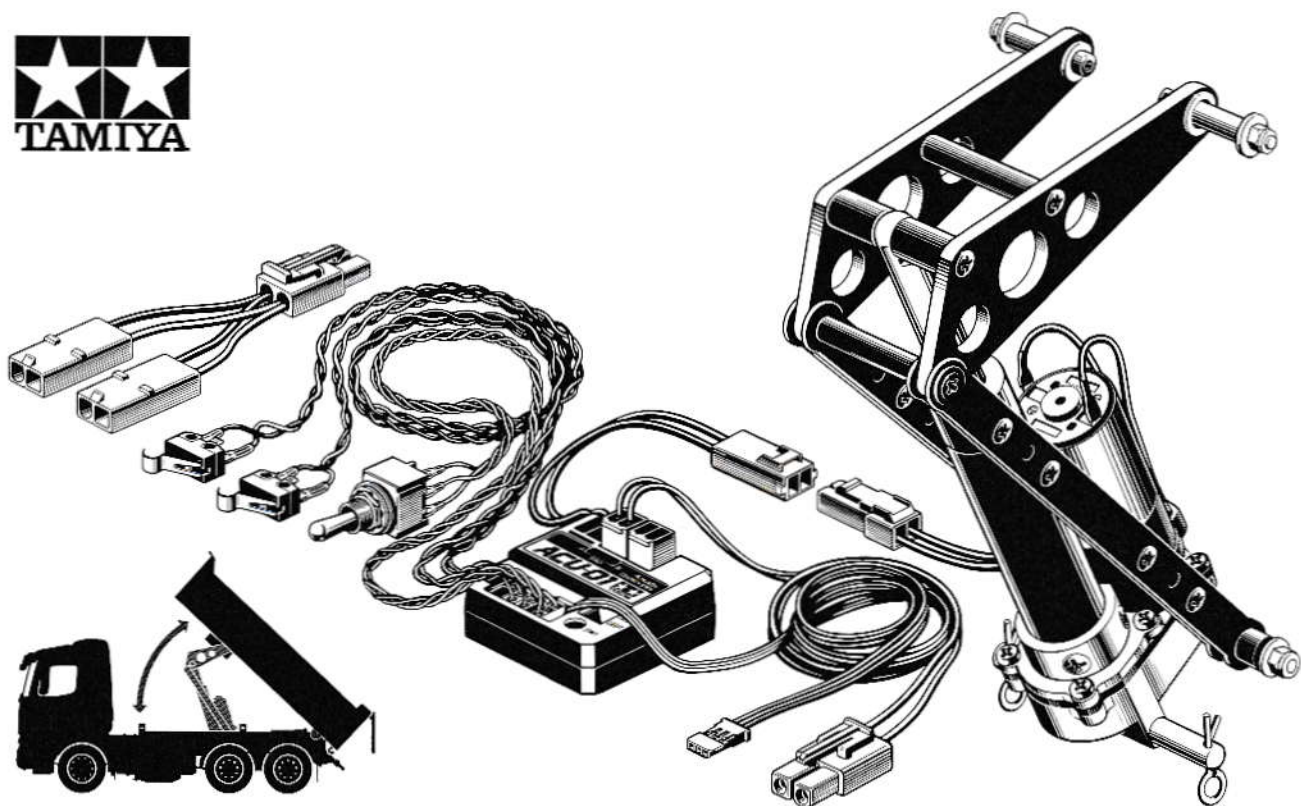
●ACUモーターはコード接続部と荷台が接触しないように、下図の位置（コード接続部がほぼ水平状態）でギヤボックスプレートに取り付けてください。

●To prevent ACU motor terminals from coming into contact with the truck bed, when attaching motor ensure that it is perpendicular to gearbox plate as shown.



ELECTRIC ACTUATOR SET

for 1/14 SCALE R/C TIPPER TRUCK



⚠ CAUTION

- When assembling this kit, tools including knives are used. Extra care should be taken to avoid personal injury.
- Keep out of reach of small children when assembling. Children must not be allowed to touch tools or put any parts or packaging material in their mouths.

《Before assembly》

- Thank you for purchasing this Tamiya Actuator Set product. Check the set contents before assembly. Please contact your local Tamiya dealer if any defect or missing part is found.
- Read carefully and fully understand this instruction manual before beginning assembly.
- This product is for use with Tamiya R/C tipper truck models, and allows control of truck bed motion. It cannot be used together with Motorized Support Legs (Item 56505). It is compatible with MFC-01 and MFC-03 Multi-Function Control Units (recommended), plus ESCs usable with Tamiya R/C tractor trucks.

《R/C System》

- This kit requires the following items (not included in this kit); a 4ch transmitter (self-neutral stick type with 4ch trims), a 4ch receiver, 2 servos and either an ESC, MFC-01 or MFC-03 (accurate as of December 2017).
- When using with MFC-01 or MFC-03, 2ch or 3ch R/C units cannot be used.
- FINESPEC 2.4G 4ch TTU-09 / TRU-09, Futaba ATTACK 4WD

T4VWD / FP-114H or Futaba ATTACK 4YWD-2.4G / R204 GF-T are recommended for optimum operation.

★ Digital servos and hi-torque servos (such as Items 45061, 45062 and 45065) may impair function.

※ If using MFC-01 or MFC-03, ensure that R/C system is compatible with it.

※ If unsure as to compatibility, please contact your local Tamiya agent.

● When using R/C units other than those listed above, use only self-neutral stick type transmitters with 4ch sliding type trim levers. Transmitters which do not employ a self-neutral system or sliding type trim levers (e.g. click-touch type trims) may not realize optimum operation.

● R/C units from makers other than those listed above may operate, but some functions may not be usable and performance may be less than optimal. The signal may also differ, so those above are strongly recommended.

● PCM units, multi-channel units, and those with different signal distributions or multiple signals per channel cannot be used with this kit.

● Use only TR mighty-tuned motor (35T), or Tractor Truck Option Parts series motors for truck model.

● Some receiver connectors may not be compatible and require modification or use of conversion cable.

● Only for use with Tamiya 7.2V or 6.6V battery packs. Batteries with higher voltage may damage the unit and void warranty.

《Actuator Control Unit (ACU-01)》

- Transforms transmitter/manual controls into commands to ACU motor.
- ACU motor (2435BK64) controls raising/lowering of truck bed.
- Truck bed weight limit: 10kg. This figure applies to evenly-distributed loads. Uneven or overhanging loads may cause damage or model to stop functioning even when under 10kg.

※MFC-01/MFC-03/ESC

- See instruction manual with equipment regarding other functions and related units.

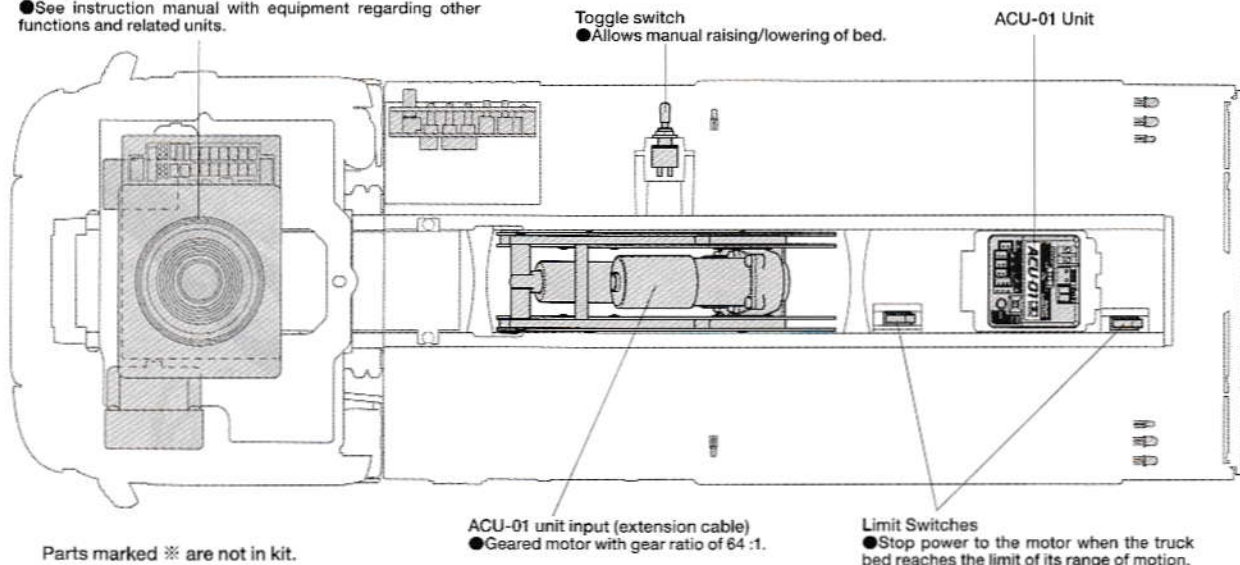
●The ACU motor can operate continuously for up to 60 seconds, and will automatically stop after that period.

※Use only TR mighty-tuned motor, or Tractor Truck Option Parts series motors for truck model. Other Type 540 motors may not provide sufficient control and should not be used.

※Power source

●Shared with model battery pack.

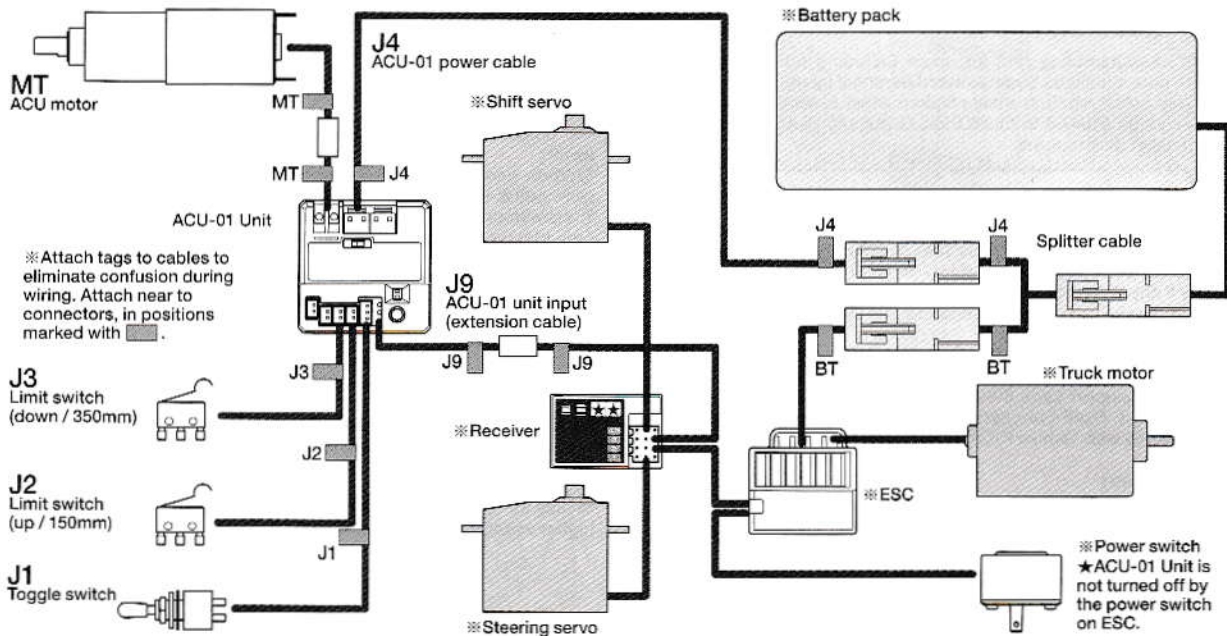
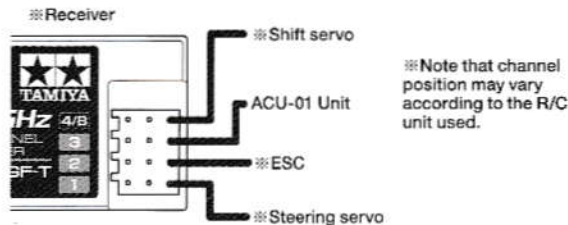
●Only for use with Tamiya 7.2V or 6.6V battery packs.



《Connecting cables ① - ESC》

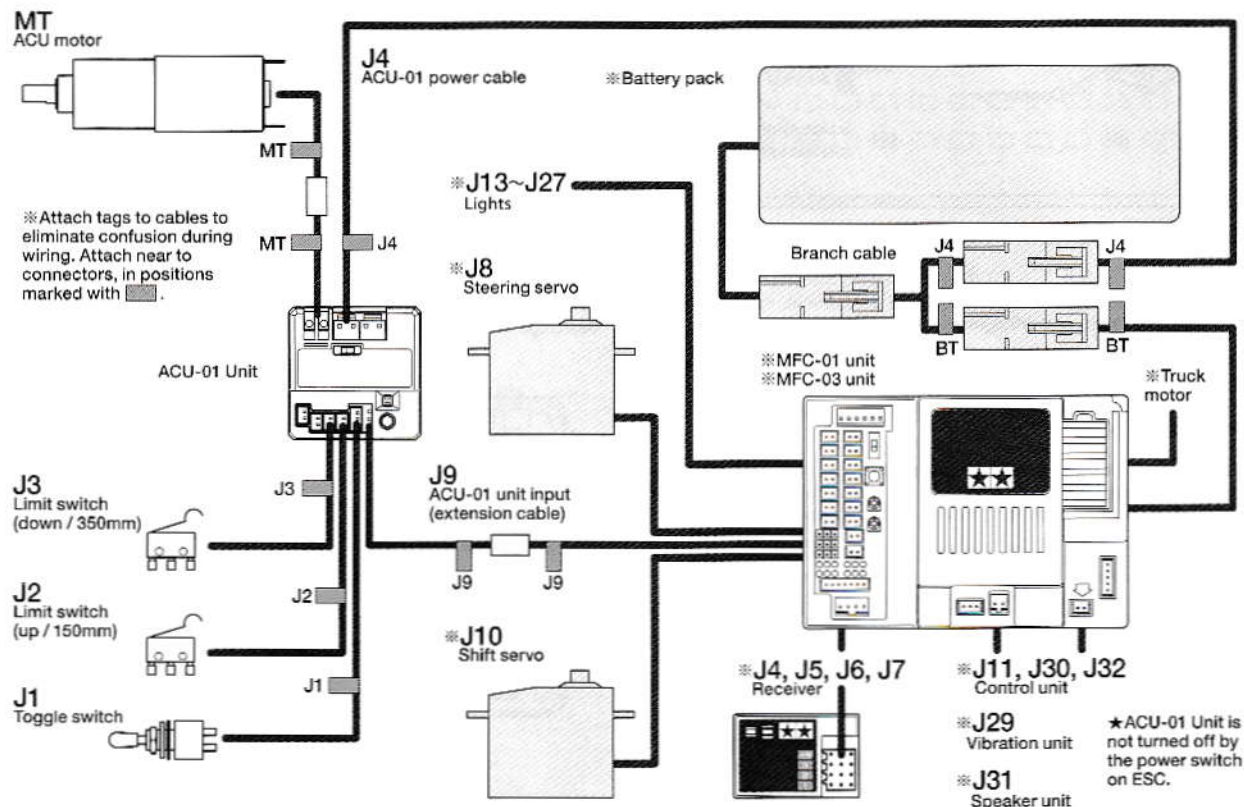
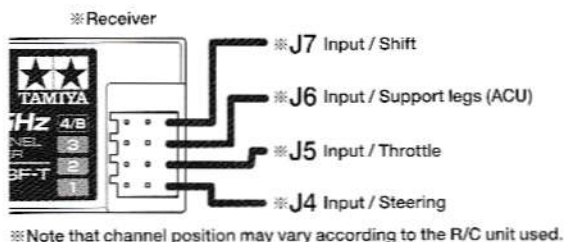
- ★Be careful to attach units and cables properly.
- ★Always disconnect battery when attaching or detaching connectors.
- ★When disconnecting cables, hold connectors with long nose pliers and pull out carefully. Be careful not to hold the connector too tightly.
- ★Never connect receiver battery (6V). It may damage the unit.

※Some ESCs do not have low voltage protection. In such a case, the ACU-01 protection functions will stop it before ESC cut-off if in standard mode.

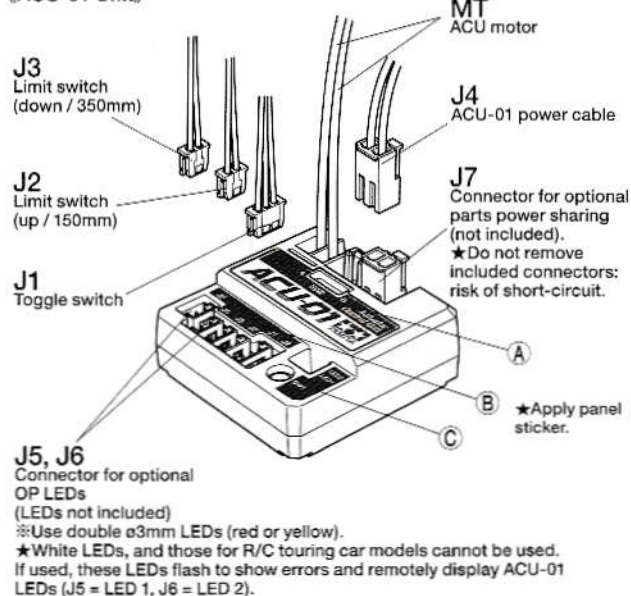


《Connecting cables ② - MFC-01/MFC-03》

- ★ Be careful to attach units and cables properly.
- ★ Always disconnect battery when attaching or detaching connectors.
- ★ When disconnecting cables, hold connectors with long nose pliers and pull out carefully. Be careful not to hold the connector too tightly.
- ★ Never connect receiver battery (6V). It may damage the unit.
- ★ Note connector numbers.

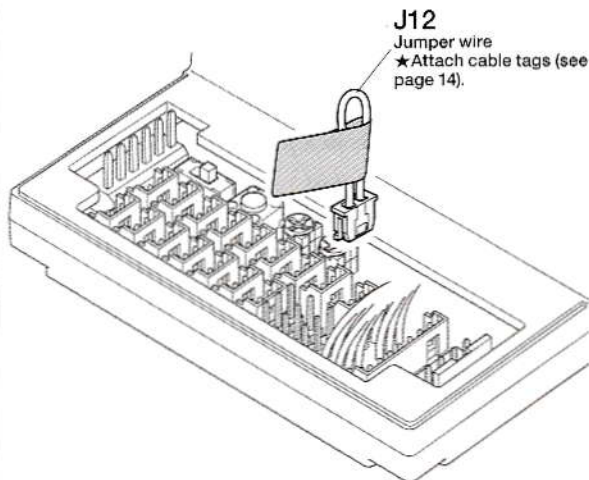


《ACU-01 Unit》



《※MFC-01 unit / ※MFC-03 unit》

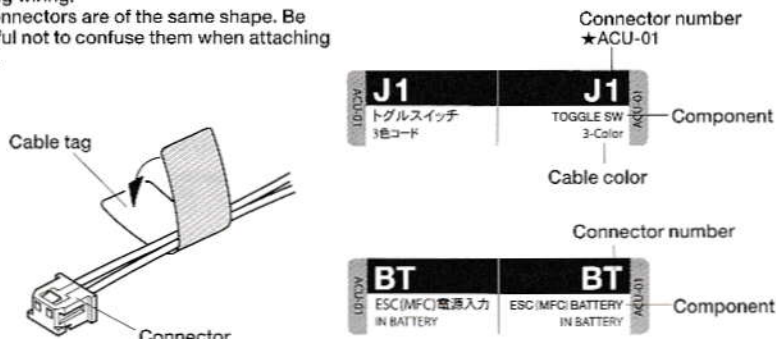
- ※ Remove MFC-01/MFC-03 coupler switch connector from J12 and replace with J12 jumper wire.
- ※ Always connect J12 jumper wire. Failing to do so will limit motor output, potentially affecting truck performance when it is carrying heavier loads.



《Attaching cable tags》

● Attach tags to cables to eliminate confusion during wiring.

★ Connectors are of the same shape. Be careful not to confuse them when attaching tags.



★ Use spare cable tags for extension cables and the like.

J1	Toggle switch (3-color cable)
J2	Limit switch (up) (Grn-Gra cable)
J3	Limit switch (down) (Grn-Bla cable)
J4	ACU-01 power cable
J5 (OP①)	ø3mm LEDs (red/yellow)
J6 (OP②)	ø3mm LEDs (red/yellow)
J7	ACU-01 power output (OP)
J9	ACU-01 signal output
J12	Jumper wire (Grn cable)
BT	ESC/MFC unit power cable
MT	ACU-01 motor

《ACU-01 Unit Functions & Adjustment》

● SW1 - Set switch

SW1 is used during teaching, dead band adjustment, re-initialization of the ACU-01 unit, and changing power mode.

• Power mode selection: choose between 3 modes with different voltage level protection functions. See page 15.

• Teaching: ensure that ACU-01 correctly receives and carries out command from transmitter.

● SW2 - Motor output adjustment switch

Changes between unit standard motor and optional motor output levels. Ensure that A is selected when using this product.

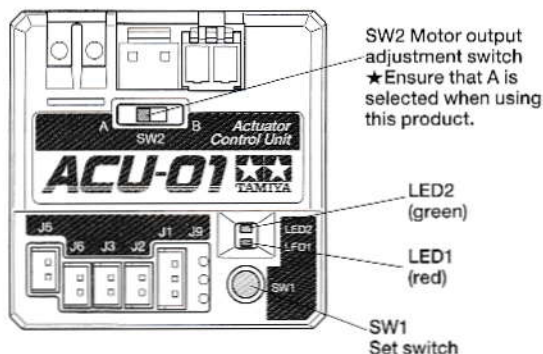
• A: For use when employing ACU-01 with ACU motor, position A controls toggle switch, limit switches and LEDs 1 and 2. The ACU-01 will only work in this position if limit switches are correctly connected and in working order.

• B: For use with potential future product evolutions, this position allows operation without limit switches. NEVER put this switch onto position B when using with this product, as it will cause damage to the model.

● LED 1 (red)

● LED 2 (green)

See page 19 for details about LED.



《Power source》

● While the ACU-01 Unit does not have a power switch, it is designed to analyze usage and conserve battery power where possible.

● Disconnect battery pack to turn off ACU-01 when it is not in use.

● Toggle switch remains live if battery is connected. Always disconnect battery when not using.

● Leaving battery pack connected for long periods when ACU-01 Unit is not in use can lead to over-discharging and damage.

● ACU-01 Unit will sleep to avoid over-discharging if battery pack voltage is low. Connect a fully-charged battery pack to resume usage.

● ACU-01 Unit is not turned off by the power switch on MFC-01/MFC-03/ESC. Disconnect battery pack to turn off ACU-01.

● ACU-01 Unit will not operate without Ch.3 receiver signal, connected limit switches and the connection of a sufficiently-charged battery (varies according to power mode).

● LEDs 1 and 2 will light up when ACU-01 Unit is on. If J5 and J6 LEDs are connected, they will light up and flash to show LEDs 1 and 2 remotely.

《Power mode》

● Different power modes can be set depending upon the type of battery pack used. Please note that these modes do not prevent over-discharging, but activate a series of protection functions in the following order:

1. Alarm ①: ACU-01 operational
2. Alarm ②: ACU-01 not operational
3. Sleep

Please note that some power modes may skip one or both warnings.

● This product is designed for use with MFC-01 or MFC-03 Multi-Function Control units. It will continue to function at input voltage levels below MFC unit's low voltage protection cut-off.

● Some ESCs do not have low voltage protection. In such a case, the ACU-01 protection functions will stop it before ESC cut-off.

● This product is designed for use with Tamiya battery packs. Use with other products may void warranty.

3 power modes are selectable: 1. Standard mode (Tamiya battery pack), 2. R6/AA/UM3 battery mode, and 3. Battery failsafe mode. Use 1. Standard mode with this product.

《Changing modes》

Press SW1 three times inside 2 seconds. LEDs flash to show selected mode.

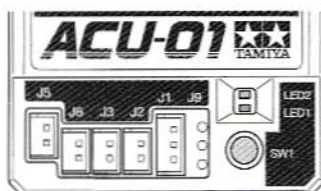
Standard mode (Tamiya battery pack)

↓

R6/AA/UM3 battery mode

↓

Battery failsafe mode



《Power mode》

●Standard mode (Tamiya battery pack)

This mode is for use with 6.6V – 7.2V Tamiya LF and NiCd battery packs. It features 2 alarm stages before going to sleep.

Alarm ① (ACU-01 operational) (LED signal)

- ※Alarm tone ① sounds quietly, but truck bed still moves.
- ※Alarm stops if voltage returns to sufficient levels.

Alarm ② (ACU-01 not operational) (LED signal)

- ※Alarm tone ② sounds quietly, and truck bed does not move.
- ※Alarm stops and bed can move if voltage returns to sufficient levels.

Sleep (LED signal)

- ※Truck bed does not move. No alarm tone is emitted.
- ※Unit will remain in sleep mode even if voltage returns to sufficient levels. Disconnect connectors and connect a fully-charged battery to resume use.

★Selected mode is displayed by flashing of LEDs.

●R6/AA/UM3 battery mode

This mode is for use when using four R6/AA/UM3 batteries as a 4.8V-6.0V power source, when employing ACU-01 with optional parts other than actuator motor. This mode is not for use with this product.

Alarm ①, alarm ② and sleep mode occur as described for the standard mode (please note that the voltage at which each protection function occurs will differ).

●Battery failsafe mode

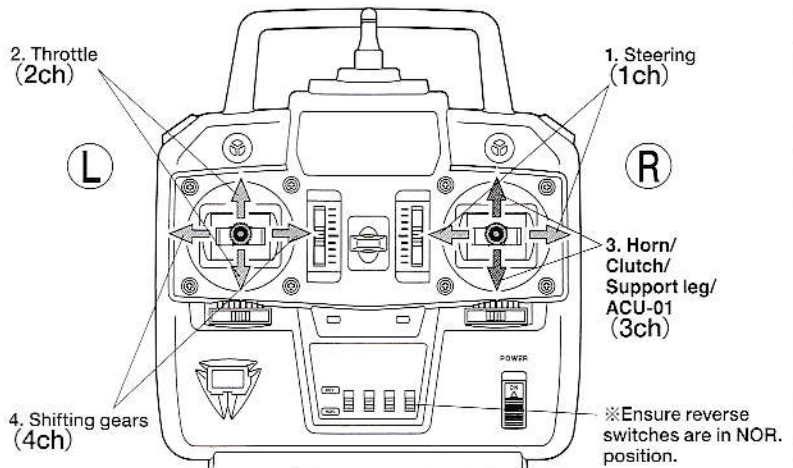
This mode puts the ACU-01 unit to sleep immediately when MFC unit low protection function is engaged. Do not use stop mode for this product.

★To deactivate alarm and protective functions, allow voltage to recover, or use toggle switch to manually operate truck bed. If protection functions (alarms, etc.) continue, remove connectors and restart ACU-01.

《Transmitter commands》

- ACU-01 Unit is operated on Ch.3.
- Other channel functions are dictated by any connected separate units. Refer to the relevant instruction manuals.
- If using with MFC-01 or MFC-03, select ACU-01 Unit using procedure for 4ch special (Support leg/Horn switching). Repeat to deselect ACU-01 Unit.
- When using with an ESC, or with an MFC unit in R/C mode, bed can be controlled without switching using procedure for 4ch special (Support leg/Horn switching).
- ACU-01 Unit will not turn on without Ch.3 receiver signal, connected limit switches and the connection of a sufficiently-charged battery.

★Keep trims in neutral position.

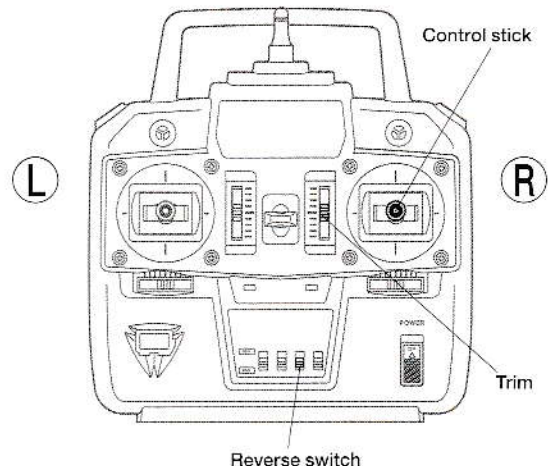
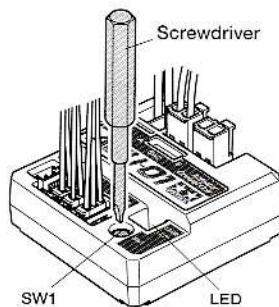


《ACU-01 Unit Adjustment (Teaching)》

- ★Install ACU-01 unit on model before teaching.
- As all R/C transmitters can have slight variances in performance, it is essential to perform teaching, particularly when using the ACU-01 Unit for the first time, or employing a new transmitter.
- Teaching requires the included screwdriver. Connect cables and ensure ACU-01 Unit is functioning, then set transmitter reverse switches to positions defined in the truck model instruction manual. Set trims to neutral positions.
- Two teaching modes exist:
 - A : Transmitter teaching (control stick operation range)
 - B : Trim teaching (trim operation range)
- When using with ESC, connect cables, check reverse switch and trim positions (see above), then perform teaching.
- When using with MFC-01/MFC-03, first perform teaching as described in MFC unit instruction manual.
- When MFC unit teaching is complete, connect cables to ACU-01 Unit, check reverse switch and trim positions (see above), then perform teaching.
- Perform teaching mode A first, then B.
- Current teaching mode is indicated by flashing of ACU-01 LEDs.
- When using with MFC-01/MFC-03, move MFC unit select switch into R/C mode (lowest position). Teaching can also be performed with the select switch in Multi mode (middle position): in such a case, ensure the throttle is active and select support leg mode using procedure for 4ch special (Support

leg/Horn switching) before teaching.

- Some manufacturers' transmitters may require different reverse switch positions.
- Ensure steering and shift servos are in neutral position, adjusting rod length where possible.



★ACU-01 teaching is a separate process to MFC unit teaching, and should always be performed.

★Repeat this process if teaching is unsuccessful. If problems persist, re-initialize following the instructions for d: Re-initialize below, then perform teaching again.

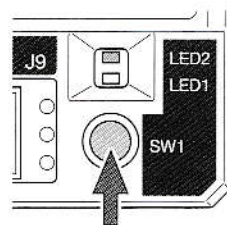
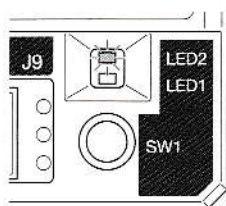
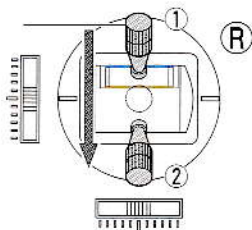
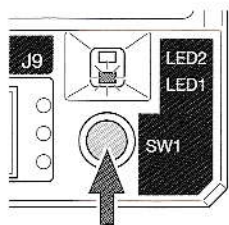
《a: Transmitter Teaching》

①Hold down SW1 for between 3 and 5 seconds, until LED 1 (red) flashes slowly, then release.

②Move control stick 2 (ch.3) from top to bottom.

③LED 2 (green) will flash slowly when signal has been correctly received.

④Press SW1 again. LED 2 will light up to signify completion of transmitter teaching.



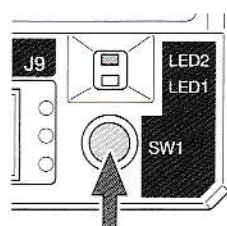
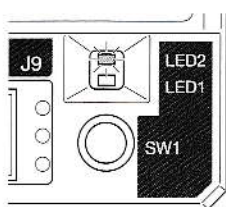
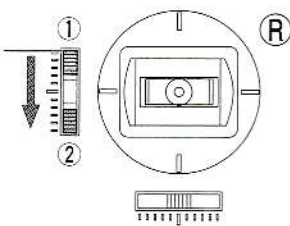
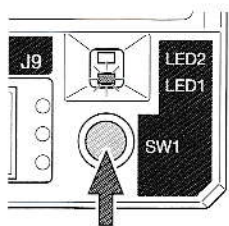
《b: Trim Teaching》

①Hold down SW1 for between 5 and 10 seconds, until LED 1 (red) double flashes slowly, then release.

②Move ch.3 trim lever from top to bottom.

③LED 2 (green) will flash slowly when signal has been correctly received.

④Press SW1 again. LED 2 will light up to signify completion of trim teaching.



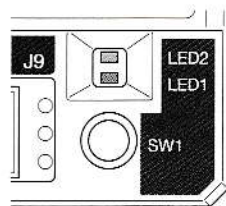
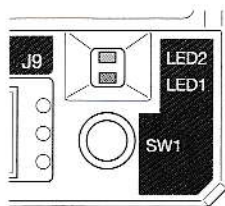
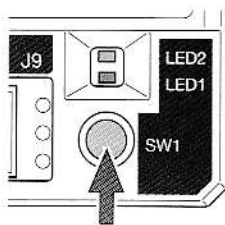
《c: Adjusting dead band》

①Hold down SW1 for 10 seconds to switch between setups. LEDs long flash alternately to signify standard setup, and double flash alternately to signify wider dead band setup. Only use wider setup if truck bed does not offer a full range of movement.

LEDs long flash alternately to signify standard setup.

LEDs double flash to signify wider dead band setup.

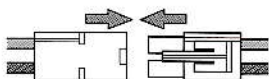
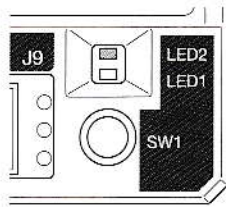
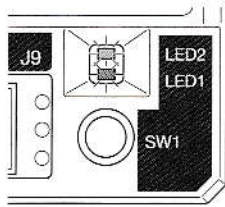
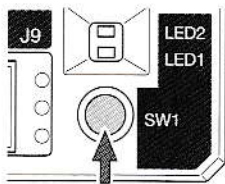
★After changing dead band setup, always perform teaching a and b.



《d: Re-initialize》

①Hold down SW1 and connect battery, then release SW1. LEDs will flash, and then LED 2 will light up to signify re-initialization.

★After re-initialization, always perform teaching a and b.



《ACU-01 Unit Specifications》

- Voltage: 6.6-7.2V (※or 4.8-6.0V according to switch position)
- Operational temperature range: -10°C to 50°C
- Store at: -20°C to 60°C
- Maximum motor current: 5A
- Compatible motors (ACU-01 Unit): Geared actuator motor (2435BK64)

- Compatible motors (truck model): TR mighty-tuned motor (35T), or motor from Tractor Truck Option Parts series. (※Other motors may cause frequent activation of protection function, and malfunction).

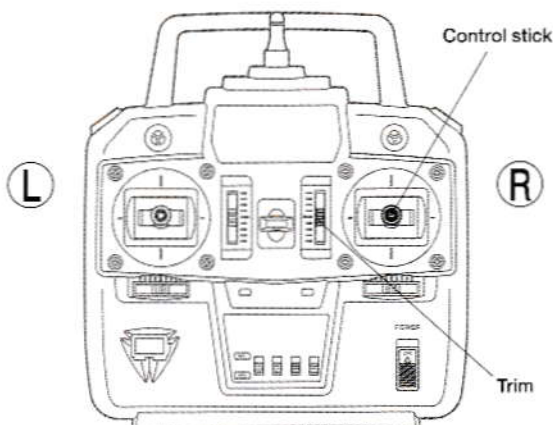
《Transmitter commands》

- Truck bed motion can be controlled via 4ch transmitter.
- Before operation, ensure that all external components are connected and switches in the correct position. If using with MFC-01 or MFC-03, select support leg mode using procedure for 4ch special (Support leg/Horn switching), and ensure engine is running.
- If transmitter commands do not operate truck bed correctly despite checking all connections and ACU-01 Unit again, contact your local Tamiya agent for assistance or repair.
- Truck bed motion can also be controlled via toggle switch.

★ Do not overload the truck bed, as it can prevent motion at low speeds.

※ If separately-sold $\phi 3$ mm LEDs (red or yellow) are connected to OP LED 1 and 2 ports on ACU-01 Unit, they also flash as a warning during raising/lowering of truck bed. Attach as you like. Please note that white LEDs cannot be used.

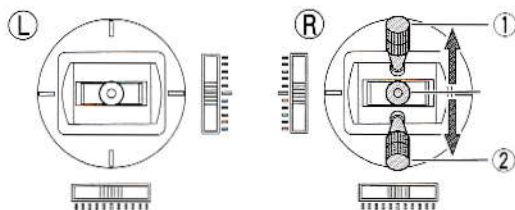
★ Full range of bed motion takes approximately 50 seconds when using a 7.2V battery. The actuator motor can operate continuously for up to 60 seconds, and will automatically stop after that period.



《When using ESC》

※ 3 speeds are available, according to transmitter control stick position.

- ① Raising truck bed
- ② Lowering truck bed



《When using MFC-01》

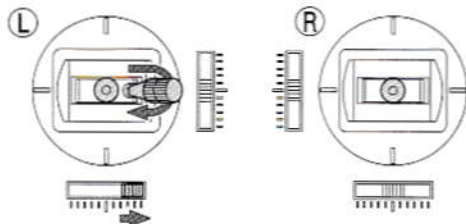
※ Select support leg mode using procedure for Horn / Support legs switching via transmitter.

※ Truck bed cannot be moved when model is in simulated engine stop.

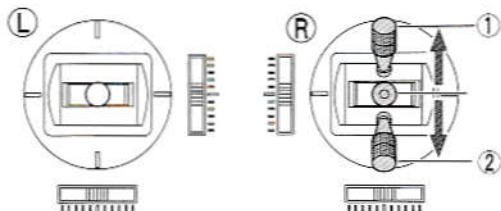
● Set MFC unit to multi mode. If using R/C mode, follow instructions for using with ESC.

※ 3 speeds are available, according to transmitter control stick position.

- ① Raising truck bed
- ② Lowering truck bed



● Move 4ch trim fully to the right. Moving control stick 1 fully to the right changes mode. Use control stick 2 (Ch.3) to operate truck bed.



● Mistakes during teaching, or setting reverse switches to REV. position can cause the model to operate opposite to commands.

《When using MFC-03》

※ Start engine using procedure for 3ch engine start.

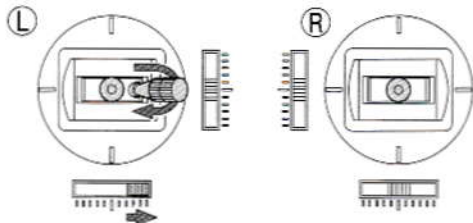
※ Truck bed cannot be moved when model is in simulated engine stop, or engine has not yet been started.

※ Select support leg mode using procedure for 4ch special (Support leg/Horn switching) via transmitter.

● Set MFC unit to multi mode. If using R/C mode, follow instructions for using with ESC.

※ 3 speeds are available, according to transmitter control stick position.

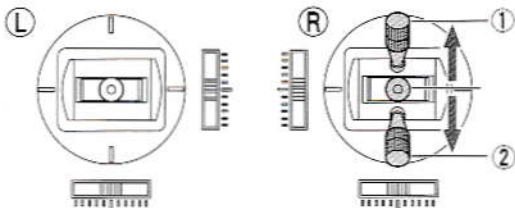
- ① Raising truck bed
- ② Lowering truck bed



4ch special (Support leg/Horn switching)

Slide 4ch trim lever completely to the right. Fully push the stick to the right then return to neutral to switch function.

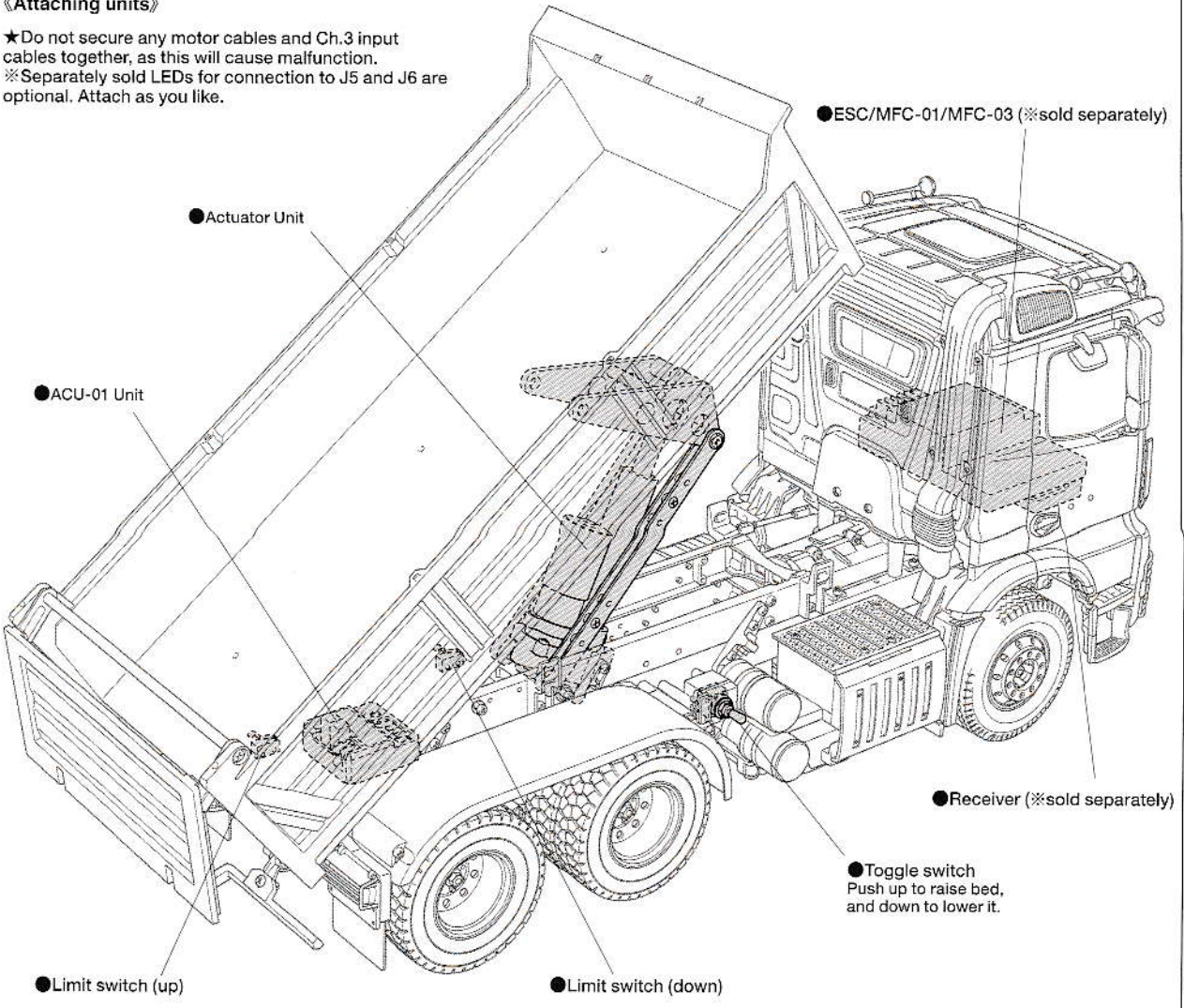
Hazard lamps will flash to show support leg mode (ACU-01 Unit) selection.



● Mistakes during teaching, or setting reverse switches to REV. position can cause the model to operate opposite to commands.

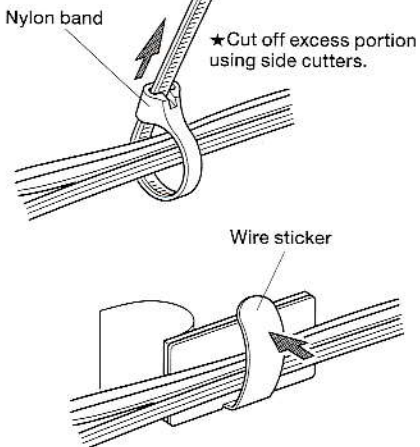
《Attaching units》

★Do not secure any motor cables and Ch.3 input cables together, as this will cause malfunction.
 ※Separately sold LEDs for connection to J5 and J6 are optional. Attach as you like.



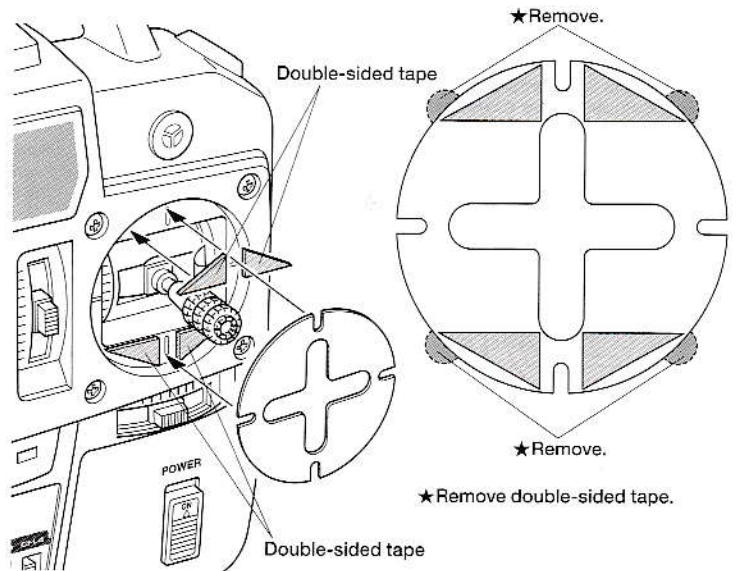
《Cables》

- Hold cables with nylon band and wire stickers.
- Do not hold ACU motor cables together with other cables. Frequency disturbance caused by contacting cables may lead to loss of control.
- If your receiver has an antenna cable, do not hold it together with other cables.

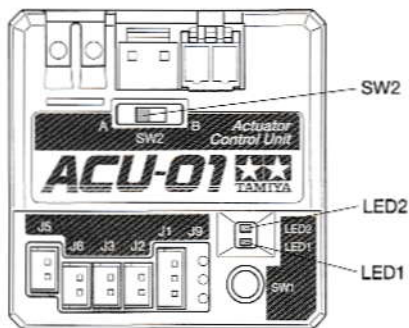


《Stick guide》

- Use stick guide to ensure correct transmitter commands.



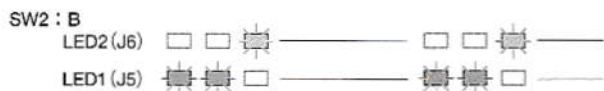
《LEDs》



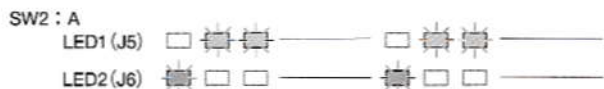
《When unit is turned on》

※When power supply is first connected and without SW1 pressed, LED 1 (J5) and LED 2 (J6) will flash in the patterns below for a set time.

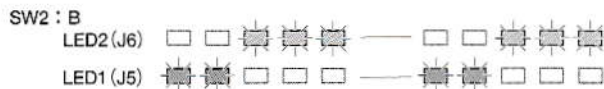
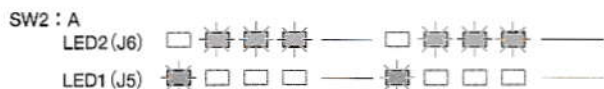
●Standard mode (Tamiya battery pack)



●R6/AA/UM3 battery mode



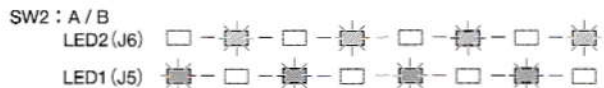
●Battery failsafe mode



《After changing power mode》

※After power mode is changed and without SW1 pressed, LED 1 (J5) and LED 2 (J6) will flash in the patterns below for a set time.

●Standard mode



●R6/AA/UM3 battery mode



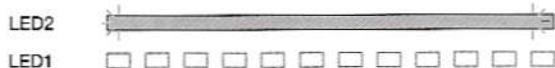
●Battery failsafe mode



《Errors (ACU-01 not operational)》

SW2 : A / B

●General use



★The ACU-01 unit will not operate when LEDs flash as shown below.

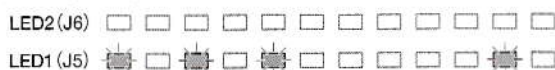
●Excessive current to FET



●FET overheating



●High battery voltage



●Low battery voltage (not operational and alarm ② sounds)



●Very low battery voltage (ACU-01 stopped)



●Flash memory error (★Contact your local Tamiya dealer.)

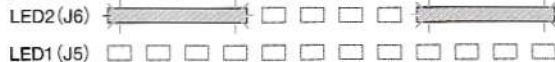


《Errors (ACU-01 operational)》

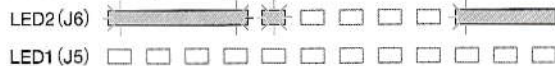
SW2 : A / B

●Emergency stop (object trapped)

(★Bed can be lowered again after 10 seconds.)



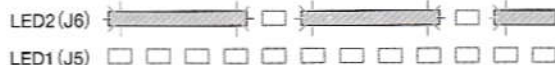
●Motor overload stop (lowering bed)



●Motor overload stop (raising bed)



●Low battery voltage (ACU-01 operational, alarm ① sounds)



●Transmitter signal unstable/error



★If problems are not solved after following solutions on page 20 and allowing some time, please contact your local Tamiya dealer.

《Troubleshooting》

Problem	LED	Cause	Solution
Model does not move.	LEDs do not light up.	Battery is not charged.	Charge battery in model.
		ACU-01 Unit is broken.	Request repair service.
Truck bed does not move.	LEDs flash.	Insufficient battery charge.	Fully charge battery in model.
		Teaching error.	Re-initialize unit.
		Too much electric current for motor.	Check that motor is correct type.
			Check motor has not short-circuited.
			Adjust bed load, then disconnect and reconnect battery or use toggle switch to cancel protection function.
		Actuator FET overheating protection activated.	Switch off and check for obstructions to moving parts. Allow to cool for about 10 minutes.
		ESC/MFC-01/MFC-03 is not turned on.	Turn on.
	No Ch.3 signal from transmitter.	Select switch is on Manual Mode (MFC-01) or Demo Mode (MFC-03). Move to another position.	
	Transmitter power is not on.	Check transmitter.	
	LEDs are on.	Engine start not performed (MFC-01/MFC-03).	Perform engine start.
		Motor is broken.	Exchange motor for a new one.
		No Ch.3 signal from transmitter.	Miswiring. Reconnect cables.
			Engine is stopped (MFC-01/MFC-03). Perform engine start.
		Limit switch is broken.	Exchange for a new one.
Transmitter/receiver is broken.		Check without ESC/MFC-01/MFC-03 connected. If they still do not function, contact manufacturer for repair.	
Transmitter and receiver not communicating correctly.		Move motor cables away from antenna cable.	
Teaching error.	Check frequency band (non-2.4GHz units) and pairing.		
Truck bed movement is erratic.	LEDs flash.	Obstruction in moving parts.	Remove obstruction.
		Low battery voltage.	Fully charge battery in model.
		Truck bed load is too heavy.	Do not load truck bed over stated limit.
	LEDs are on.	Teaching error – raising/lowering of truck bed is opposite.	Re-do teaching.
		Cables are pinched.	Secure cables with nylon band.
LEDs flash.	LEDs flash.	ACU-01 Unit circuit board is damaged.	Request repair service.
Unit does not operate correctly.	LEDs are on.	Using transmitter/receiver set other than those recommended.	Use recommended transmitter/receiver set.
		Limit switch cable is broken.	Exchange limit switch for a new one.

★Sudden throttle motion or starting on a hill with fully-loaded bed may cause a sudden drop in battery voltage and cause operation to stop.

★If an object is trapped, the ACU-01 will detect excessive current and stop. Move bed in the opposite direction.

★Switching immediately from raising bed to lowering (and vice versa) may cause the ACU-01 to act as if an object is trapped. Do not run continuously as it can damage unit and motor.

★Attempting to move a loaded bed while the truck is moving can lead to a sudden drop in battery voltage and cause operation to stop. Avoid aggressive throttle use in particular.

★If model stops suddenly, first check whether ACU-01 is still operational (i.e. bed moves), and reconnect battery if it is not. Turning

MFC unit off and on does not reset ACU-01 protection function.

★LEDs will continue to show an error until it is fixed, even if another error occurs afterwards. If errors are still shown despite successfully following the prescribed remedy, disconnect battery and restart.

★Actuator motor speed may vary according to battery voltage.

★Some ESCs do not have low voltage protection. In such a case, the ACU-01 protection functions will stop it before ESC cut-off if in standard mode.

★Lowering loaded bed can cause protection function to operate and operation to stop. Toggle switch operation will be given priority over transmitter.

《Caution》

●Always disconnect battery after use, to avoid over-discharging.

●Only for use with Tamiya 7.2V or 6.6V battery packs. Batteries with higher voltage may damage the ACU-01 and MFC units.

●Refrain from aggressive use of throttle or long-lasting movement of truck bed.

●Avoid repeated, continuous raising and lowering of the truck bed, as this can cause overheating and damage to circuit board.

●Do not load truck bed over stated weight limit, as this can cause damage to moving parts, or ACU-01 overheating protection to activate.

●Do not touch or allow others to touch the model while the truck bed is moving – risk of injury.

●Connect cables correctly. Make sure connectors are always securely connected.

●Hold cables with nylon band and wire stickers. Do not hold running motor cables together with other cables. Frequency disturbance caused by contacting cables may lead to loss of control.

●Exposed wires may lead to short-circuits. A built-in security circuit is designed to stop operation if a short-circuit is detected, but may not catch all problems. In case of damage, contact your local Tamiya dealer for repair.

●Large amounts of friction caused by rotating parts can overheat motor or circuit board. Apply grease to gears, bearings and other rotating parts regularly.

●Heavy truck bed loads can cause quick depletion of battery and stop model. Recharge battery or reduce truck bed load.

●Old or over-discharged batteries may not be able to power model. Recharge and discharge several times, or replace with new battery.

●Use only TR mighty-tuned motor, or Tractor Truck Option Parts series motors for truck model.

●Continuous use with overloaded truck bed causes strain on parts and may lead to activation of the protection function. This function will disengage after motor and other components cool down (around 10 minutes depending upon temperature, etc.)

●Do not use in dusty or sandy conditions.