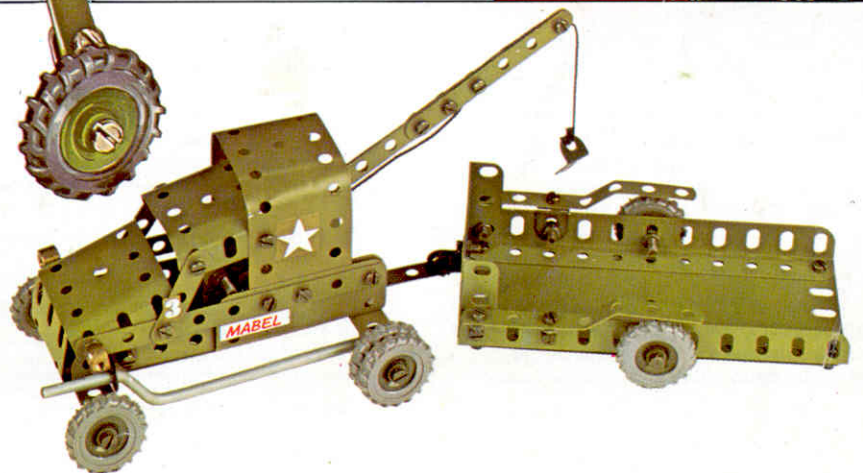
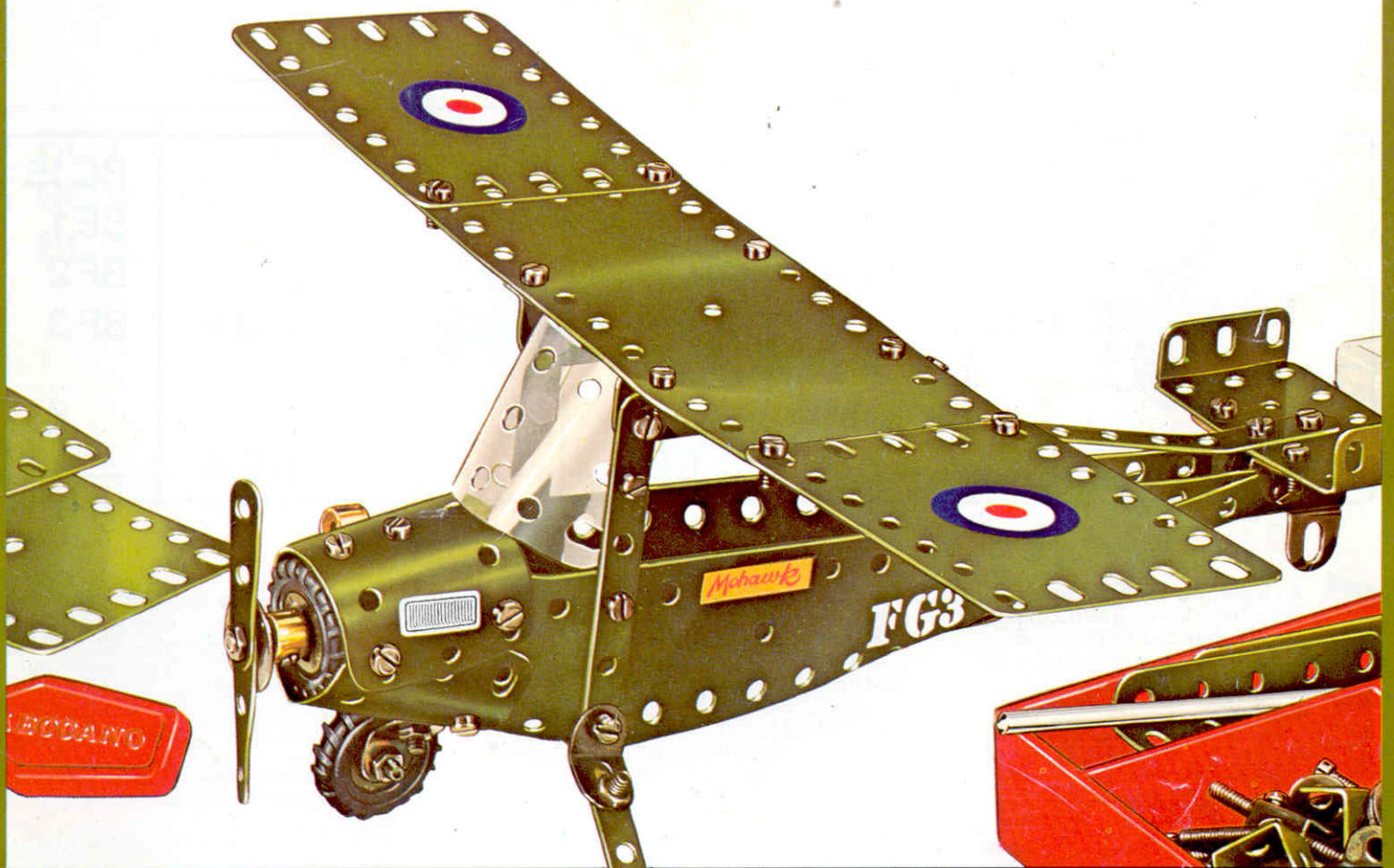


# MECCANO®

## COMBAT CONSTRUCTION SET

### BOOK OF MODELS

Voorbeeldenboek  
Livre des modèles  
Libro dei modelli  
Modellbuch  
Modellbok  
Libro de modelos





**How to use Meccano  
Please read this carefully before  
you start to build**

This book contains all the instructions you need to build with Meccano. Its clear colour pictures show you each step for every model.

Even if you have never used Meccano before you'll find that, with just a little practice, you can design and build almost anything. It's easy—and it's fun. And the only tools you need are a screwdriver and two spanners which are included in every kit. In case you haven't used tools before, this is how they work:

The screwdriver is used to turn bolts by putting the blade in the bolt's slot and turning it to the right. To undo the bolt you turn the screwdriver the other way

Nuts go on the ends of bolts. Use your fingers to get the nut on to the end of the bolt and then the screwdriver to tighten the bolt. To make the joint really firm, hold the nut with the spanner while you tighten the bolt.

When you want a piece to move freely between a nut and bolt you can make a locknut. . . . Just thread two nuts on to a bolt and tighten them against each other.

When you're building Meccano models you will sometimes need certain standard joints called Basic Constructions. Numbered BC1, BC2, etc., they'll help you to build all your models more easily. The ones shown here are those needed for the models in this book.

BC1 This joins two strips together so that they can move. It's one kind of locknut. You push a bolt through the strips, thread one nut on to the bolt (but don't tighten it so much that the strips can't move) thread on the second nut and tighten it against the first. You'll have to hold the first nut with the second spanner.

BC2 This is another kind of locknut. Push the bolt through one of the strips and thread on the first nut. Then push the second strip over the end of the bolt and thread on the

second nut. Tighten the nuts against the second strip so that the first strip moves around the nuts and the bolt.

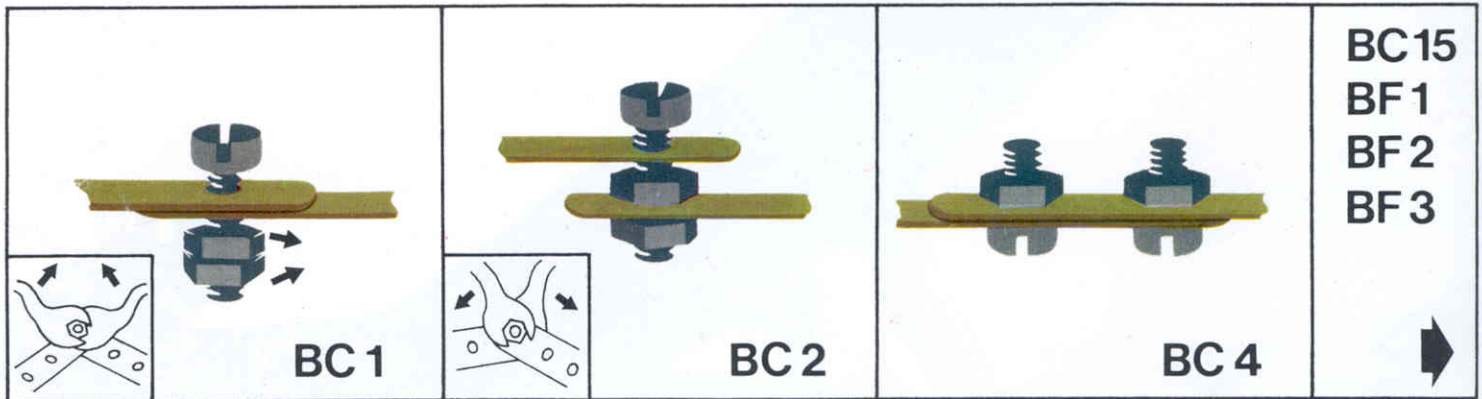
BC4 This is a way of joining two strips together with two nuts and bolts.

BC15 This is a collar used to form a bearing or a support for an axle. The bolt must not obstruct the centre hole carrying the axle and the nut should be locked against the supporting plate or strip.

Nuts and bolts can be used in different ways for different jobs. These 'bolt fixtures' have been numbered BF1, BF2, etc., so that you can recognise them in the photographs.

You will also see these symbols and

The first, , indicates that the parts concerned will move freely. The second, , shows that these parts will also move but that there will be some resistance to totally free movement, allowing the parts to stay in any position you want.



**So baust Du mit Meccano  
Bitte lies dies sorgfältig, bevor  
Du mit dem Bauen beginnst**

Dieses Buch enthält alle Anleitungen, die Du zum Bauen mit Meccano benötigst. Die klaren, bunten Bilder veranschaulichen jede Stufe bei jedem Modell.

Selbst wenn Du noch nie zuvor mit Meccano gebaut hast, wirst Du feststellen, daß Du nach ein wenig Übung praktisch alles entwerfen und bauen kannst. Es ist leicht—and es macht Spaß. Und die einzigen Werkzeuge, die Du benötigst, sind ein Schraubenzieher und zwei Schraubenschlüssel, die in jedem Baukasten enthalten sind. Vielleicht hast Du noch nie mit diesen Werkzeugen gearbeitet. In diesem Fall ist die nachstehende kurze Erklärung für Dich bestimmt von Interesse.

Der Schraubenzieher dient zum Drehen der Schrauben. Um eine Schraube anzuziehen, stecke das Blatt einfach in den Schraubenschlitz und drehe es nach rechts. Zum Lösen der Schraube ist der Schraubenzieher nach links zu drehen.

Muttern werden an den Schraubenenden angebracht. Drehe die Mutter zuerst auf das Schraubenende auf und befestige die Schraube dann mit dem Schraubenzieher

Für eine wirklich feste Verbindung halte die Mutter mit dem Schraubenschlüssel fest, während Du die Schraube anziehst.

Wenn Du willst, daß sich ein Teil unbehindert zwischen einer Mutter und einer Schraube bewegt, so kannst Du eine Gegenmutter bilden. . . . Drehe einfach zwei Muttern auf die Schraube auf und ziehe die zweite an, bis sie an der ersten fest anschließt.

Für den Bau von Meccano-Modellen sind mitunter gewisse Normalverbindungen nötig, sogenannte Grundkonstruktionen. Sie sind der Reihe nach BC1, BC2, usw., bezeichnet und man kann damit alle Modelle viel einfacher bauen. Die hier abgebildeten werden für die in diesem Buch gezeigten Modelle benötigt.

BC1 Diese Konstruktion dient zur Verbindung von zwei Teilen, die sich zueinander frei bewegen sollen. Es ist eine Art Gegenmutter. Stecke eine Schraube durch die Teile, drehe eine Mutter auf die Schraube auf (ziehe sie aber nicht so sehr an, daß sich die Teile nicht bewegen können), drehe die zweite Mutter auf und ziehe sie an, bis sie fest an der ersten Mutter anschließt. Dabei mußt Du die erste Mutter mit dem zweiten Schraubenschlüssel festhalten.

BC2 Auch dies ist eine Art Gegenmutter. Stecke die Schraube durch eines der Teile und drehe die erste Mutter auf. Dann schiebe das zweite Teil über das Schraubenende und drehe die zweite Mutter auf. Ziehe die Muttern an das zweite Teil an, so daß sich das erste Teil um die Muttern und die Schraube bewegt.

BC4 So kannst Du zwei Teile mit Hilfe von zwei Muttern und Schrauben miteinander verbinden.

BC15 Ein Bund als Lager oder Stütze für eine Achse. Die Schraube darf die mittlere Bohrung für die Achse nicht behindern und die Mutter ist fest an die Stützplatte bzw. Lasche anzuziehen.

Schrauben und Muttern lassen sich dem jeweiligen Zweck entsprechend auf verschiedene Arten gebrauchen. Diese 'Schraubverbindungen' tragen die Bezeichnungen BF1, BF2, usw. und sind somit in den Abbildungen leicht festzustellen.

Es gibt ferner die Bezeichnungen und

Die erste——bedeutet, daß die betreffenden Teile frei beweglich sind. Die zweite——besagt, daß diese Teile zwar auch beweglich sind aber nur mit einem gewissen Widerstand, so daß sie in einer gewünschten Einstelllage stehen bleiben.



**Mode d'emploi du Meccano**  
**Veillez lire ceci attentivement**  
**avant de commencer vos**  
**constructions**

Cette notice contient toutes les indications nécessaires pour faire des constructions avec Meccano. Ses illustrations en couleur sont très claires et vous guideront pas à pas pour toutes vos constructions.

Même si vous n'avez encore jamais utilisé de Meccano, vous vous rendrez compte qu'avec un peu d'habitude, vous pourrez inventer et construire presque tout ce que vous voudrez. C'est facile, et très amusant. Vous n'avez besoin que d'un tournevis et de deux clés qui sont compris dans chaque jeu. Si vous ne vous êtes encore jamais servi d'outils, voici comment ils fonctionnent.

Le tournevis sert à faire tourner les boulons; on place la pointe dans la fente du boulon et on tourne de gauche à droite. Pour dévisser le boulon, on tourne le tournevis dans l'autre sens.

Les écrous se placent au bout des boulons. Posez l'écrou à l'extrémité du boulon en maintenant avec les doigts, puis utilisez le tournevis pour serrer le boulon. Pour que

l'assemblage soit vraiment solide, maintenez l'écrou avec la clé pendant que vous serrez le boulon.

Quand vous voulez qu'une pièce puisse se mouvoir librement entre un boulon et un écrou, vous pouvez poser un contre-écrou... Il suffit de visser deux écrous sur un boulon et de les serrer l'un contre l'autre.

Lorsque vous construisez des modèles Meccano, vous avez parfois besoin de certains joints standards qui s'appellent Eléments de Base. Numérotés BC1, BC2, etc., ils vous permettront de construire plus facilement tous vos modèles. Ceux qui sont présentés ici conviennent pour les modèles de cette notice.

BC1 Il sert à joindre deux pièces de façon qu'elles puissent bouger. C'est une sorte de contre-écrou. Faites passer un boulon dans les pièces, vissez un écrou sur le boulon (mais sans serrer trop, pour que les pièces puissent bouger), vissez le deuxième écrou et serrez-le à fond contre le premier. Il faut maintenir le premier boulon avec la seconde clé.

BC2 C'est aussi une sorte de contre-écrou. Glissez le boulon dans une des pièces et vissez dessus le premier écrou. Ensuite,



glissez la deuxième pièce sur le bout du boulon et vissez dessus le deuxième écrou. Bloquer les écrous contre la deuxième pièce de façon que la première pièce puisse tourner autour des écrous et du boulon.

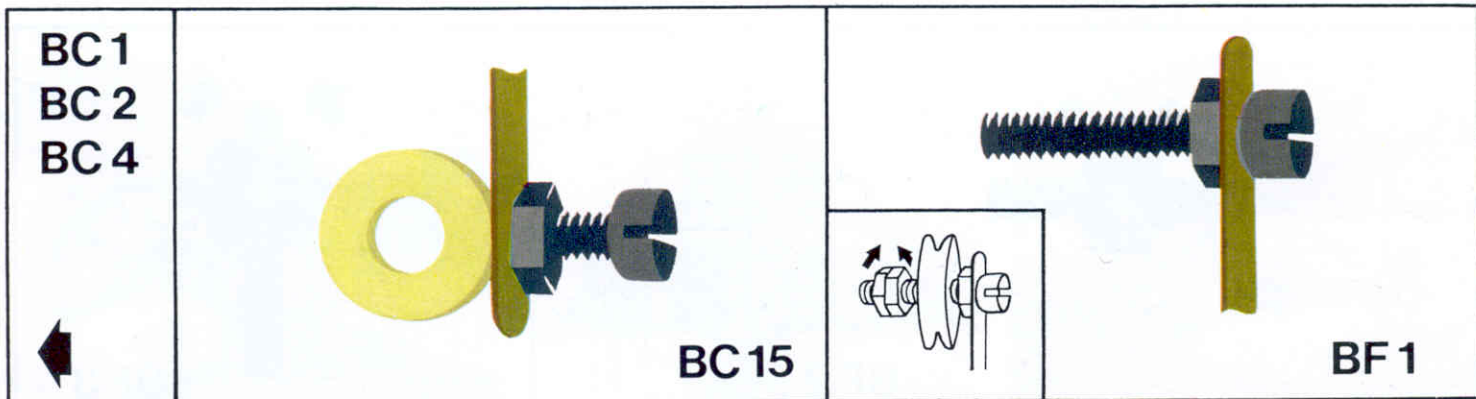
BC4 C'est une façon de joindre ensemble deux pièces avec deux boulons et deux écrous.

BC15 C'est un collier qui sert de support ou de pallier à un essieu. Le boulon ne doit pas obstruer l'orifice central qui supporte l'essieu, et l'écrou doit être bloqué contre la plaquette ou la lame de support.

Les boulons et écrous s'utilisent différemment selon l'usage qu'on en fait. Ces "montages de boulons" ont été numérotés BF1, BF2, etc., de façon que vous puissiez les identifier sur les photographies.

Vous remarquerez aussi les symboles  et .

Le premier, , indique que les pièces en question doivent pouvoir jouer librement. Le second, , indique que ces pièces doivent aussi pouvoir bouger, mais qu'il doit quand-même y avoir une certaine résistance qui les empêche de jouer complètement, de façon qu'elles restent dans la position que vous désirez.



**Come si costruisce col Meccano**  
**Prima di iniziare la costruzione**  
**dei modelli leggete attentamente**  
**quanto segue.**

Il presente manuale contiene tutte le istruzioni necessarie per costruire i modelli Meccano. Chiare illustrazioni a colori evidenziano la graduale realizzazione di ciascun modello.

Anche se vi cimentate per la prima volta con il Meccano constaterete che, con un pochino di pratica, riuscirete a progettare e realizzare qualsiasi tipo di costruzione. E' facile e divertente. Occorrono semplicemente il cacciavite e le due chiavi per dadi che troverete nel corredo. Se non avete mai usato questi utensili in precedenza, seguite queste istruzioni.

Il cacciavite serve per avvitare le viti; inserite la punta dello stesso nel taglio sulla testa della vite e girate in senso orario. Per allentare una vite, girate il cacciavite nel senso contrario.

I dadi si avvitano alle viti per unire insieme i pezzi Meccano. Si comincia girando con le dita il dado, in senso orario, sul gambo della vite. Quindi si usa la chiave per stringere bene il dado. Se alle volte il dado e la vite girano insieme, inserite la punta del cacciavite nel taglio della vite tenendo fermo e con la

chiave stringete strettamente il dado. Può essere talvolta più facile tenere fermo il dado con la chiave e avvitare la vite con il cacciavite.

Le due chiavi per dadi contenute nella scatola servono per realizzare il "controdado". avvitate due dadi sul gambo di una vite e stringeteli strettamente l'uno contro l'altro, lasciando tra i dadi e la testa della vite lo spazio utile per il libero movimento di un braccio articolato.

Nella costruzione di modelli Meccano alle volte sono necessarie delle giunzioni di vari tipi, indicate nei manuali Meccano come "costruzioni di base Meccano" ciascuna con una sigla di riferimento. Sarebbe utile fare una certa pratica con queste giunzioni perché se imparate a realizzarle con cura, vi sarà più facile poi costruire i vostri modelli Meccano.

BC1 E' il modo di congiungere due strisce permettendone l'articolazione. Questo congegno in meccanica è chiamato "controdado". I due dadi, sulla vite di congiunzione, sono stretti uno contro l'altro in modo da non premere contro la striscia; le due strisce devono poter muoversi liberamente sul gambo della vite.

BC2 E' un'altra applicazione del controdado. Un dado è avvitato al di sopra di una delle strisce e l'altro dado è avvitato al


di sotto. I due dadi sono poi stretti contro la striscia mentre l'altra resta libera di girare sul gambo della vite.



BC3 Questa è semplicemente la congiunzione di due strisce per mezzo di una terza striscia. Due viti e due dadi possono bastare per avvitare le tre strisce insieme, ma quattro formano una congiunzione più solida.

BC4 Questo è il modo di unire due strisce insieme mediante due viti e relativi dadi. Se viene usata una sola vite con il rispettivo dado le strisce potrebbero muoversi.

BC15 Si tratta di un collare usato per formare un cuscinetto o supporto per un asse. La vite non deve ostruire il foro centrale che porta l'asse e il dado deve essere stretto contro la striscia o piastra di supporto.

I dadi e le viti possono venir usati in diversi modi, a seconda del lavoro. Queste varie combinazioni di impiego delle viti sono state numerate BF1, BF2, ecc. in modo che potrete riconoscerle con facilità osservando le illustrazioni.

Noterete anche i simboli  e .

Il primo, , indica che le parti possono muoversi liberamente. Il secondo, , indica che le parti potranno anche muoversi, incontrando però un certo attrito che permette loro di rimanere ferme in qualsiasi posizione desiderata.



**Hvordan du bruker Meccano**  
**Les nøye gjennom disse**  
**anvisningene før du tar til med å**  
**bygge noe**

Dette heftet inneholder alle de opplysningene du trenger for å bygge med Meccano. De klare fargebildene viser deg modellbyggingen, skritt for skritt.

Selv om du aldri har brukt Meccano før, så finner du snart, etter bare litt øvelse, at du kan konstruere og bygge nesten hva som helst. Det er lett—og det er moro. Og den eneste form for verktøy du trenger er en skrutrekker og to skrunøkler—og disse tre følger med hvert eneste sett. Og—i tilfelle du ikke har brukt noe verktøy tidligere—det er slik du bruker dem:

Skrutrekkeren brukes for å trekke til skruer—dette gjør du ganske enkelt ved å sette bladet på skrutrekkeren inn i sporet i hodet på skruen og dreie skrutrekkeren mot høyre. Hvis du ønsker å skru-en skru ut igjen, dreier du bare skrutrekkeren den andre veien.

Mutrene settes inn over enden av skruene. Bruk fingrene først til å skru mutrene på med, deretter skrutrekkeren for å feste skruen litt til.

For at det hele nå skal sitte riktig godt fast bør du holde mutteren fast ved hjelp av skrunøkkel, samtidig som du trekker skruen til med skrutrekkeren.

Hvis du ønsker at en eller annen del skal løpe eller dreie fritt mellom en mutter og en skrue, kan du lett lage til en låsemutter . . . Bare skru to mutre inn på en skrue og trekk disse mutrene til mot hverandre.

Når du skal bygge Meccano modeller vil du som oftest trenge visse standard deler til å sette dem sammen. De kalles her Basic Constructions og er nummerert BC1, BC2, osv. De vil hjelpe deg til lettere å bygge alle modellene, og de som vises her er de du trenger til å bygge modellene i denne boken.

BC1 Denne skjøter to deler sammen slik at de kan bevege seg. Det er en slags låsemutter. Skyv en skrue gjennom delene, skru en mutter inn på skruen (men trekk den ikke så meget til at delene ikke kan bevege seg), skru deretter på en mutter til og trekk denne til mot den første. For å gjøre dette må du holde den første mutteren i ro med skrunøkkel nr. to.

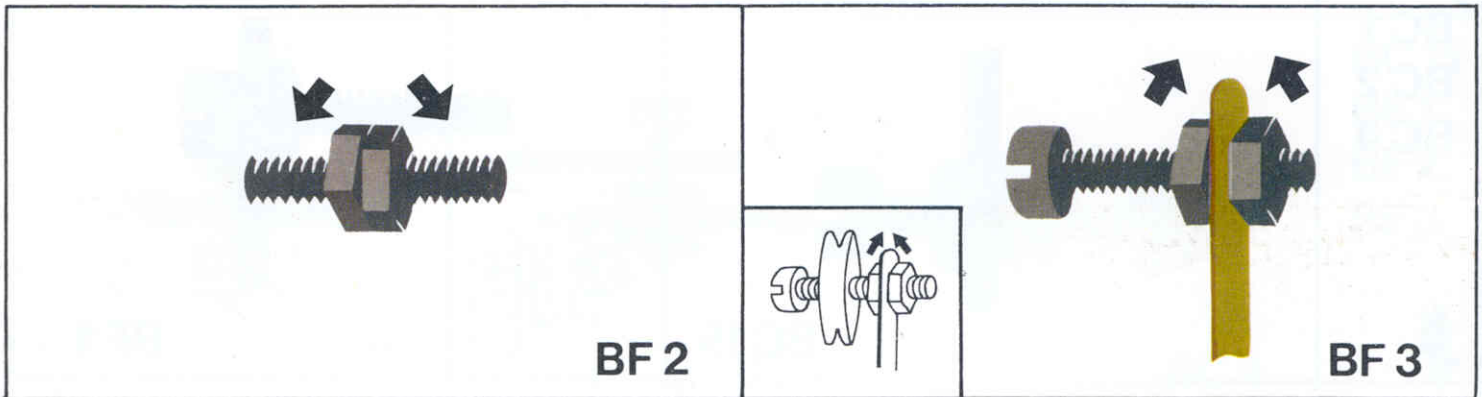
BC2 Dette er en annen slags låsemutter. Skyv skruen gjennom en av delene og skru den første mutteren på. Skyv så del nr. to inn over enden av skruen og deretter den andre mutteren. Trekk mutrene til mot del nr. to slik at del nr. en kan dreie rundt mutrene og skruen.

BC4 Ved hjelp av to mutre og skruer kan du skjøte to deler sammen på denne måten.

BC15 Dette er en ring som blir brukt til å forme et lager eller støtte for en aksel. Bolten må ikke stenge for hullet i midten som akselen går gjennom og mutteren må festes mot støtteplaten.

Bolter og muttere kan brukes på forskjellige måter til forskjellige ting. Disse kombinasjonene er nummerert BF1, BF2, osv. så det er lett for deg å finne dem i illustrasjonene.

Du vil også finne tegnene  og . Det første tegnet, , betyr at delene vil bevege seg fritt. Det andre tegnet, , betyr at disse delene også vil kunne bevege seg; men de beveger seg ikke like fritt som de merket 000 og kan derfor stoppes i hvilken som helst stilling.



**Het gebruik van Meccano**  
**Lees dit aandachtig voordat je**  
**begint te bouwen.**

Dit boek bevat al de instructies die je nodig hebt om met Meccano te bouwen. De duidelijke, gekleurde plaatjes laten je elke stap voor elk model zien.

Zelfs als je nog nooit Meccano gebruikt hebt, zul je merken dat je met een klein beetje oefening bijna alles kunt ontwerpen en bouwen. Het is eenvoudig—en het is leuk. Het enige gereedschap dat je nodig hebt is een schroevendraaier en twee moersleutels en die bevinden zich in elk pakket. Voor het geval je nog nooit gereedschap gebruikt hebt volgen hier een paar aanwijzingen.

De schroevendraaier wordt gebruikt om bouten aan te halen door het blad in de sleuf van de bout te plaatsen en deze naar rechts te draaien. Om de bout los te maken draai je de schroevendraaier in tegenovergestelde richting.

Moeren passen aan de uiteinden van bouten. Gebruik je vingers om de moer aan het uiteinde van de bout te plaatsen en neem dan de schroevendraaier om de bout aan te halen. Om een werkelijk stevige verbinding

te krijgen houd je de moer met de sleutel vast terwijl je de bout aandraait.

Als je een onderdeel vrij tussen een moer en een bout wilt laten bewegen kun je een borgmoer maken . . . je zet eenvoudig twee moeren op een bout en draait ze tegen elkaar vast.

Wanneer je Meccano-modellen bouwt, heb je soms bepaalde standaardverbindingen, zgn. basisconstructies, nodig. Deze zijn genummerd BC1, BC2, enz. en zullen je helpen al je modellen gemakkelijker in elkaar te zetten. De hier aangeduide basisconstructies zijn nodig voor de modellen in dit boek.

BC1 verbindt twee strips zodat zij kunnen bewegen. Het is een soort borgmoer. Je drukt een bout door de strips, zet een moer op de bout (maar draai deze niet zo stevig op dat je de strips niet kunt bewegen), zet een tweede moer op en draai deze tegen de eerste vast. Je zult de eerste moer met de tweede sleutel moeten vasthouden.



BC2—dit is een ander soort borgmoer. Druk de bout door een van de strips en zet de eerste moer erop. Druk dan de tweede strip over het uiteinde van de bout en zet de

tweede moer erop. Draai de moeren tegen de tweede strip aan zodat de eerste strip om de moeren en de bout beweegt.

BC4—dit is een manier om met twee moeren en bouten twee strips te verbinden.

BC15 is een kraag die gebruikt wordt om een lager of een steun voor een as te vormen. De bout mag het middenste gat waar de as doorheen steekt niet versperren en de moer dient tegen de steunplaat of strip vastgezet te worden.

Bouten en moeren kunnen op verschillende manieren voor verschillende taken worden gebruikt. Deze "boutbevestigingen" zijn BF1, BF2 enz. genummerd, zodat je ze van de foto's kunt herkennen.

Je zult ook de symbolen  en  aantreffen.

Het eerste, duidt aan dat de betrokken onderdelen vrij zullen bewegen. Het tweede, , duidt aan dat deze onderdelen wel zullen bewegen maar dat er enige weerstand tegen een volkomen vrije beweging optreedt, zodat de onderdelen in de gewenste stand zullen blijven.



### Bending and straightening flexible plates

You will see that most of the models in this book need curved plates. The following hints will help you to bend – and to straighten – the Flexible Plates in your Combat Set without damaging them.

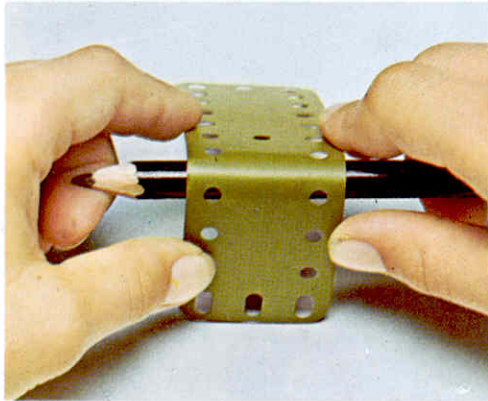
Do not crease the plates like pieces of paper but *form* them round some suitable object.

For example, if you want a gentle curve you can use a broom handle by placing the plate against the handle and, with your hands, carefully but firmly forming the plate around it.

For much sharper bends you can use a *round* pencil, and a collection of old cans will be ideal for much larger curves. To be especially well equipped you can collect a set of wooden cylindrical 'formers' of various sizes.

Remember, when you're using a pencil for the sharper bends, try to make sure that the bend comes between the holes in the plates.

All the plates can be straightened out again by *gently and gradually* moulding them back between your fingers. Do *not* try to straighten them against a 'former'.



### Das Biegen und Ausgraden der flexiblen Platten

Für die meisten der in diesem Buch abgebildeten Modelle sind gebogene Platten nötig. Die folgenden Hinweise sollen dazu beihilflich sein die im Combat bausatz enthaltenen flexiblen Platten zu biegen und wieder auszugraden, ohne sie zu beschädigen.

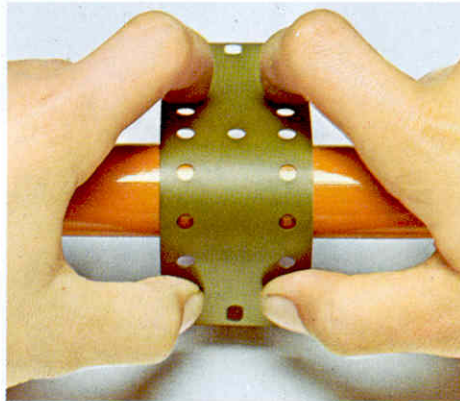
Vor allen Dingen dürfen die Platten nicht wie Papier geknickt werden, sondern sie müssen um ein geeignetes Objekt *geformt* werden.

Zur Herstellung eines sanften Bogens kann man die Platte z.B. vorsichtig aber fest mit der Hand um einen Besengriff drücken.

Für schärfere Bögen kann man evtl. einen runden Bleistift nehmen und eine Sammlung alter Dosen sollte sich ideal für viel größere Bögen erweisen. Um ganz besonders gut 'eingerichtet' zu sein, lohnt es sich, sich eine Auswahl von zylindrischen 'Formstücken' aus Holz in verschiedenen Größen anzulegen.

Bei der Formgebung der schärferen Bögen um einen Bleistift, ist darauf zu achten, daß die Biegung zwischen den Löchern in der Platte zu liegen kommt.

Alle Platten können mit den Fingern wieder *sanft und allmählich* vorgehend ausgegradet werden. Das darf aber in diesem Fall *nicht* mit einem 'Formstück' geschehen.



### Pour courber et redresser les plaques flexibles

Vous vous rendrez compte que la plupart des modèles présentés dans cette notice nécessitent des plaques cintrées. Les quelques conseils qui suivent vous permettront de courber et de redresser les plaques flexibles de votre boîte de construction Combat sans les endommager.

Ne pas plier les plaques comme si c'était du papier, mais les *former* autour d'un objet rond approprié.

Par exemple, si vous voulez obtenir une courbe douce, vous pouvez vous servir d'un manche à balai en appuyant la plaque contre le manche et en la serrant doucement, mais fermement dans votre main en suivant le contour rond du manche.

Pour obtenir une courbure plus serrée, vous pouvez vous servir d'un crayon rond, et pour les courbures plus larges, il vous serait utile d'avoir une collection de vieilles boîtes de conserve. Pour être vraiment bien équipé, il serait bon de rassembler un jeu de petits cylindres de bois de différentes tailles qui vous serviraient de "moule".

N'oubliez pas, lorsque vous utilisez un crayon pour obtenir une courbe serrée, qu'il faut essayer de former la courbure entre les trous des plaques.

Toutes les plaques peuvent être redressées en les remettant *doucement et progressivement* en forme entre vos doigts. Ne pas essayer de les redresser contre un "moule".



### Come si curvano e si raddrizzano le piastre flessibili.

Noterete piastre curvate in molti dei modelli illustrati in questo manuale. Ecco alcuni suggerimenti per curvare e raddrizzare le piastre flessibili del vostro Meccano senza danneggiarle.

Non piegate le piastre ma date loro la dovuta forma curva adoperando un oggetto adatto allo scopo.

Per esempio, se vi occorre una curvatura media potete usare un manico di scopa, appoggiando la piastra sullo stesso e facendovela aderire con le mani. Per curvature più strette usate una matita rotonda; per curvature più ampie potrete usare un barattolo di latta una bottiglia ecc. Per essere ben attrezzati, potrete procurarvi una serie di cilindri di legno o di altro materiale di varie dimensioni.

Attenzione: quando usate una matita per le curvature più strette, l'incurvamento deve avvenire tra i fori delle piastre.

Le piastre si raddrizzano prendendole *in modo graduale, con cura e opportunamente* tra le dita. *Non* tentate di raddrizzarle usando lo stesso oggetto mediante il quale le avevate incurvate.



### Hvordan en skal krumme og rette ut igjen de bøyelige platene.

Du vil legge merke til at de fleste modellene i denne boken trenger krumme plater. Her følger noen vink som vil hjelpe deg til å bøye – og rette ut igjen – platene i ditt Meccano uten å skade dem.

Platene skal ikke foldes som et stykke papir, men krummes rundt en passende gjenstand.

Hvis du for eksempel skal lage en svak kurve kan du bruke et kosteskaft, legge platen mot det og med hendene forsiktig forme platen rundt det.

For å få en skarpere krumning kan du bruke en rund blyant. En samling gamle hermetikkboksér er ideelt til å lage større kurver. Hvis du vil skaffe deg ekstra fint utstyr kan du samle sammen et sett sylindrerformete treklosser i forskjellige størrelser.

Husk at når du bruker en blyant til skarpe krumninger, må du forsøke å passe på at krumningen kommer mellom hullene i platen.

Alle platene kan bli rettet ut igjen ved at du *forsiktig og gradvis* glatter dem ved å stryke platene mellom fingrene. Du må *ikke* prøve å rette dem ut ved å krumme dem den motsatte veien.



### Buigen en rechtmaken van buigzame platen

Je zult merken dat je voor de meeste modellen in dit boek gebogen platen nodig hebt. De volgende tips zullen je helpen de buigzame platen in je Meccano te buigen – en recht te maken – zonder ze te beschadigen.

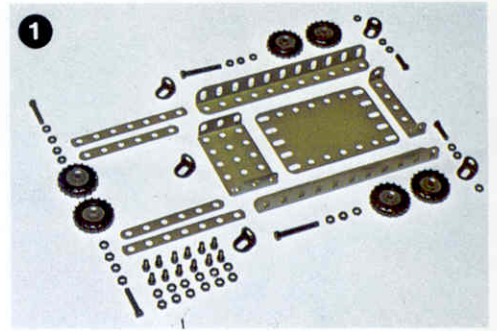
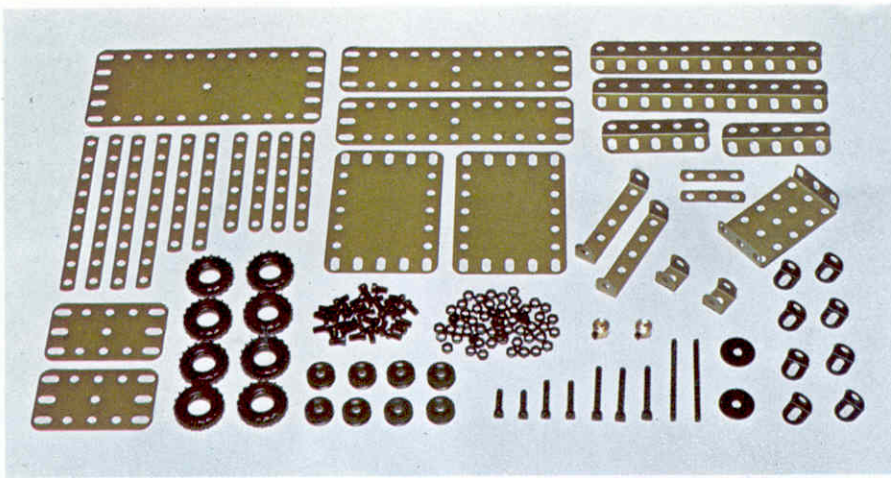
Vouw de platen niet als een stuk papier, maar *vorm* ze om een of ander geschikt voorwerp.

Als je bijvoorbeeld een geringe kromming nodig hebt, kan je een bezemsteel gebruiken door de plaat tegen de steel te houden en met je handen er voorzichtig maar stevig omheen te vormen.

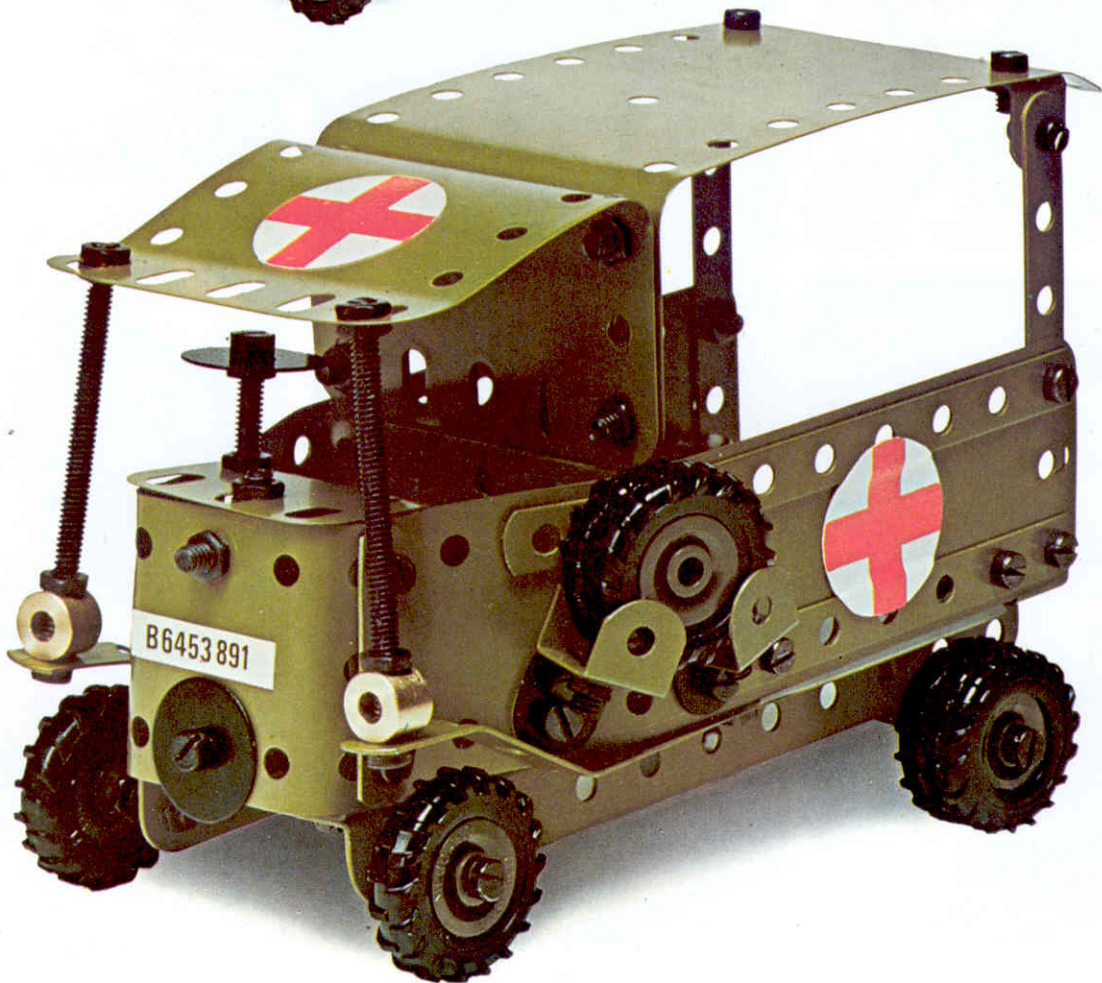
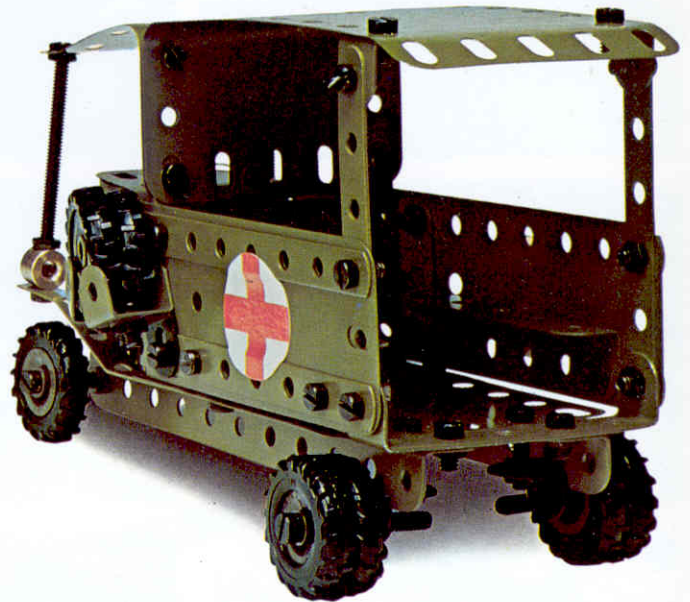
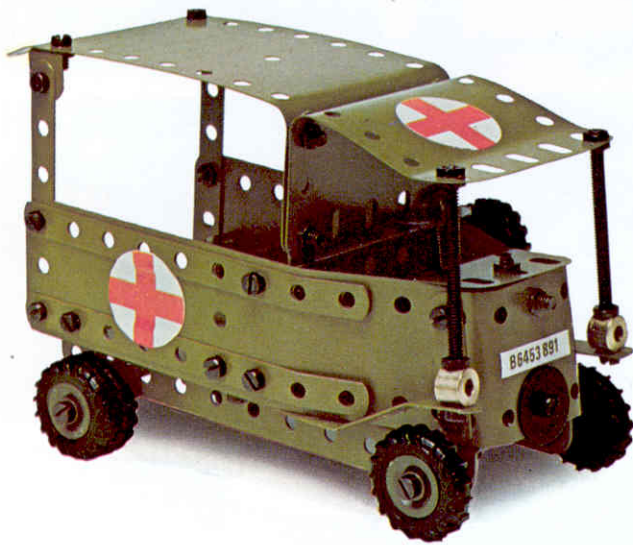
Voor een veel scherpere kromming kan je een rond potlood gebruiken, en een verzameling oude blikken zal ideaal zijn voor geringere krommingen. Om werkelijk goed uitgerust te zijn kan je een stel cilindrische "vormers" van verschillend formaat verzamelen.

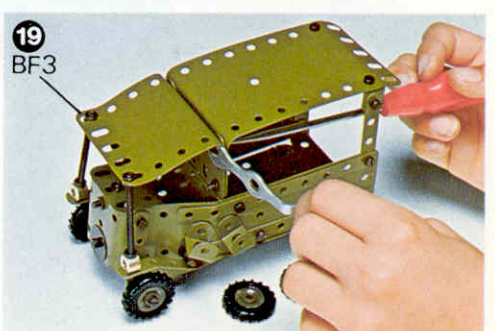
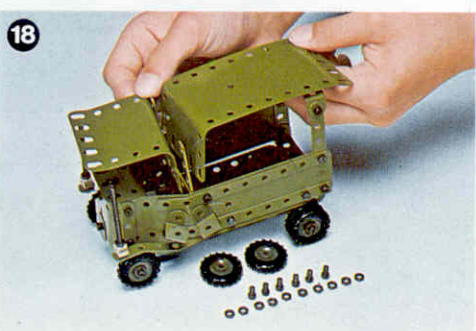
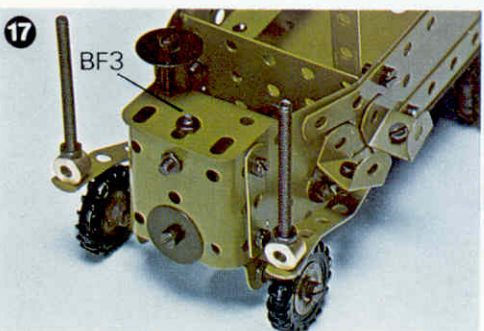
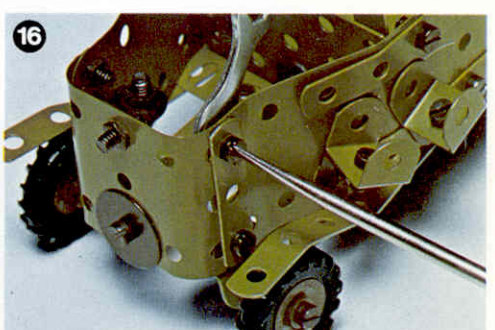
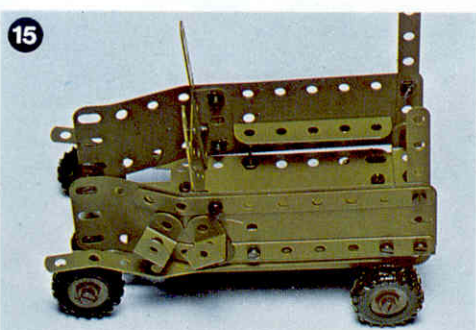
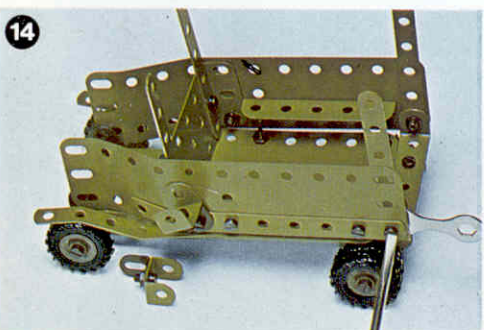
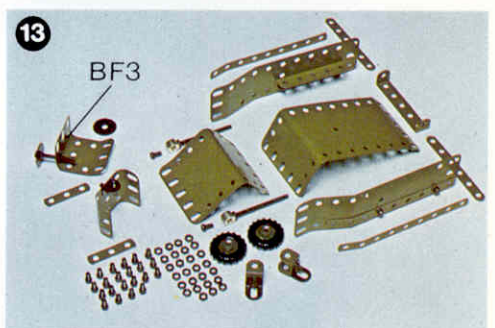
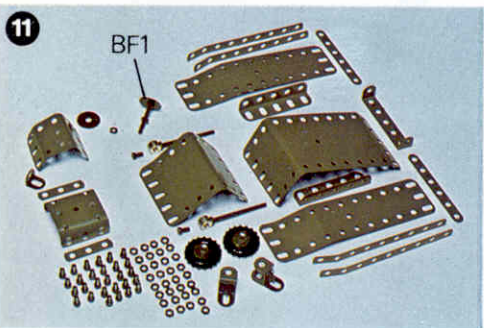
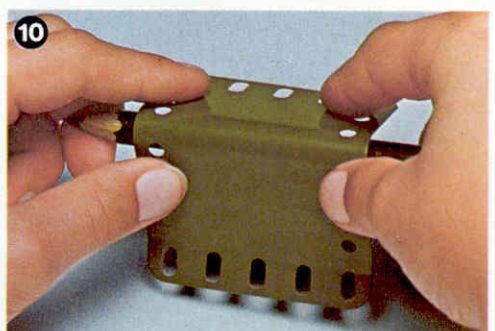
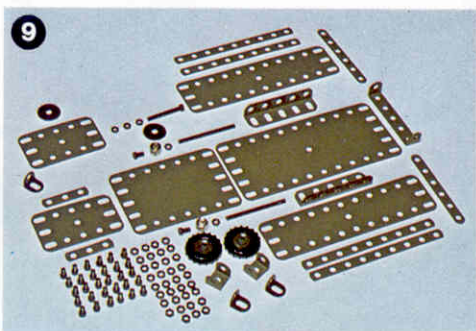
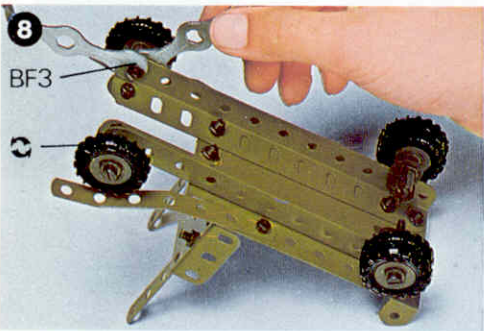
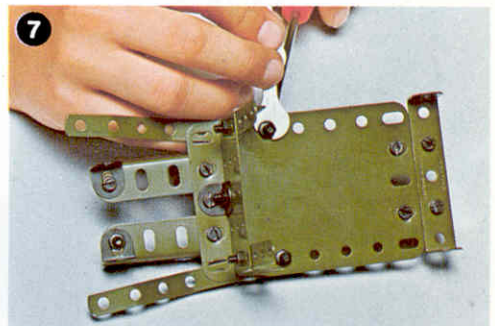
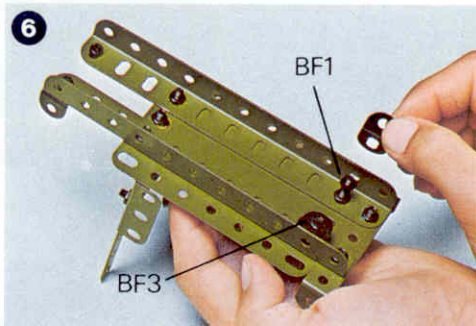
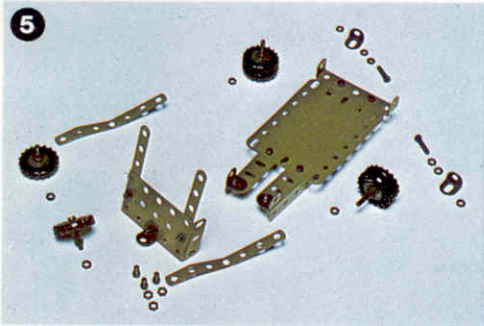
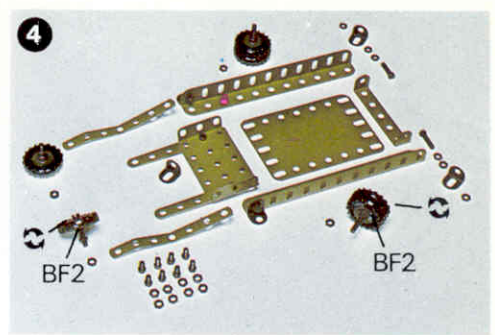
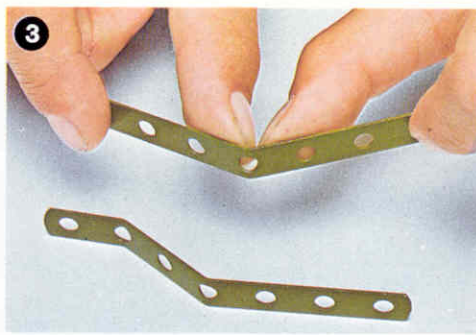
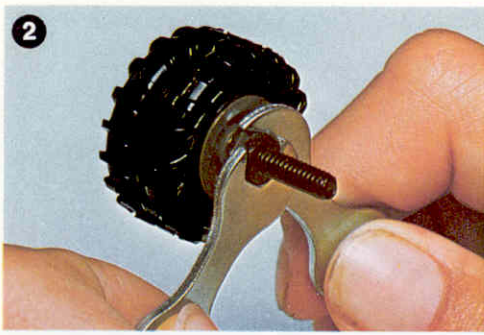
Denk eraan dat als je een potlood gebruikt voor de scherpere krommingen, je ervoor moet proberen te zorgen dat de kromming tussen de gaten in de platen komt.

Al de platen kunnen weer rechtgemaakt worden door ze voorzichtig en geleidelijk aan met je vingers weer terug te vormen. Probeer ze *niet* tegen een vormer recht te maken.

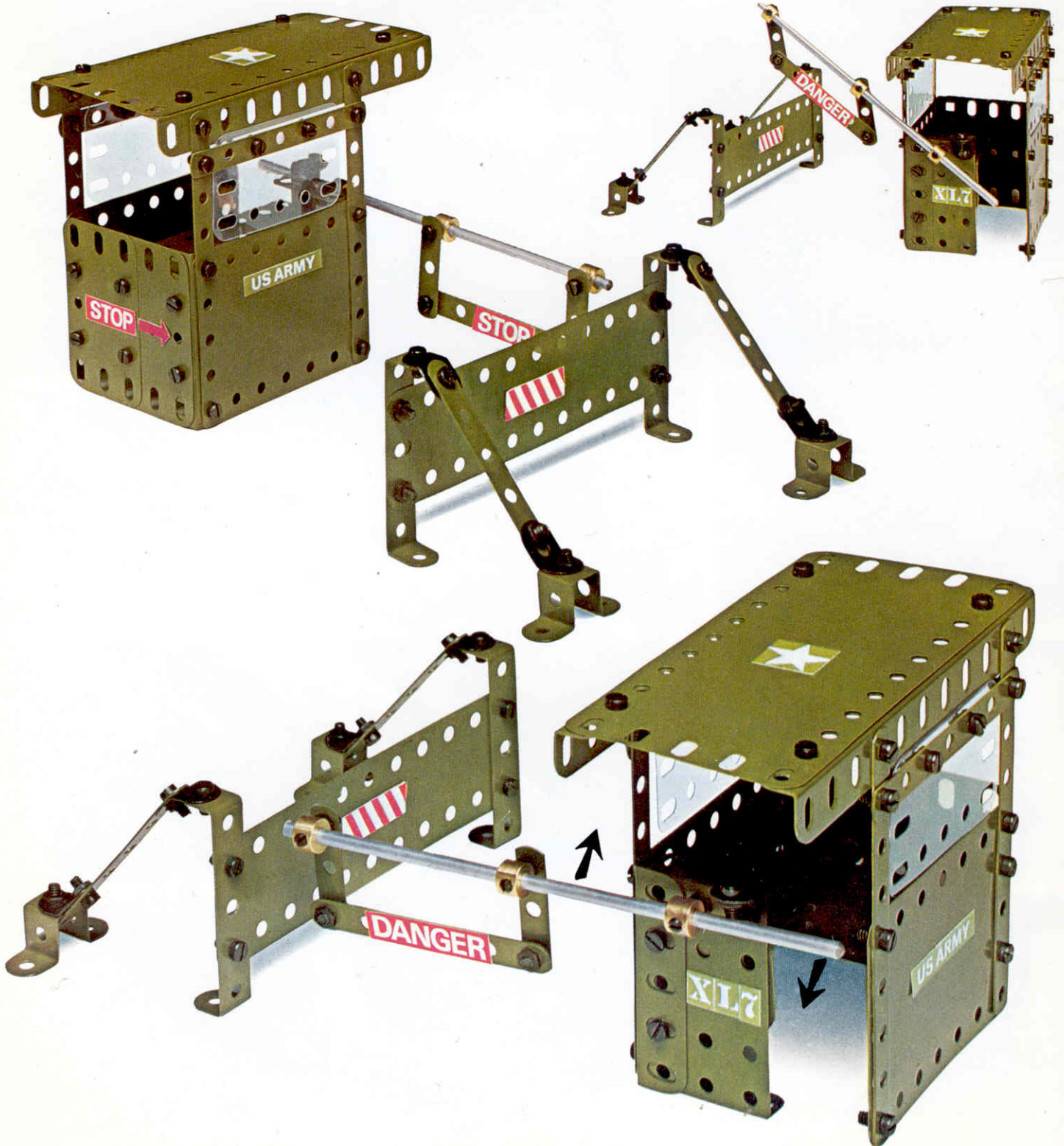
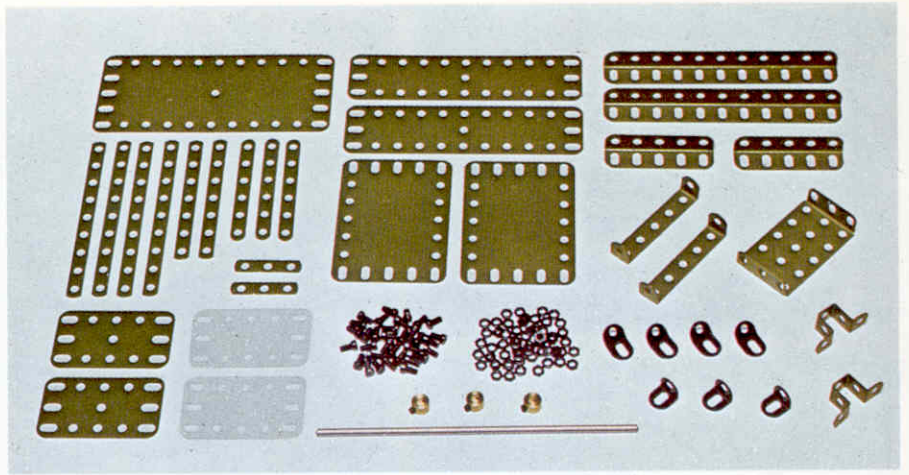


# VETERAN AMBULANCE

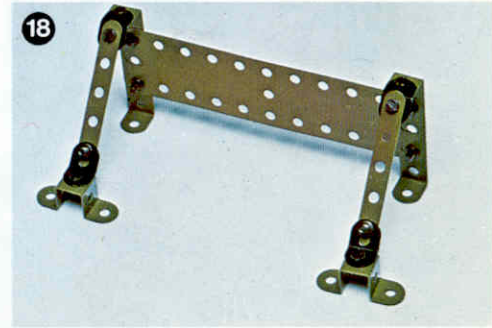
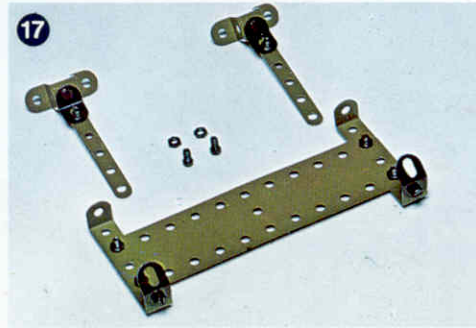
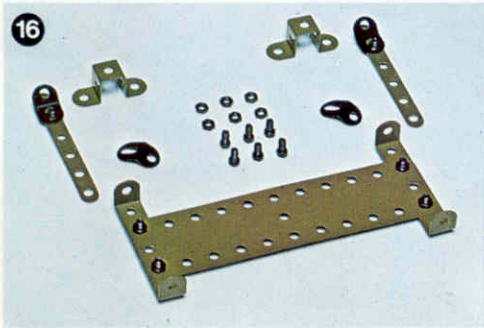
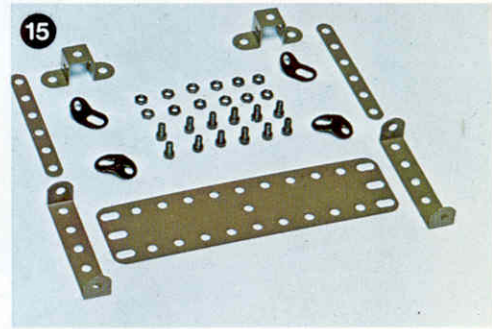
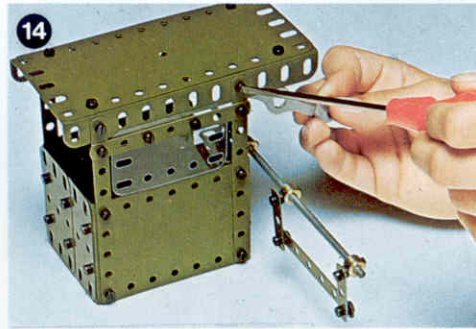
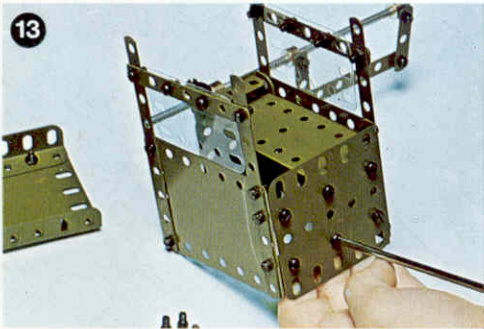
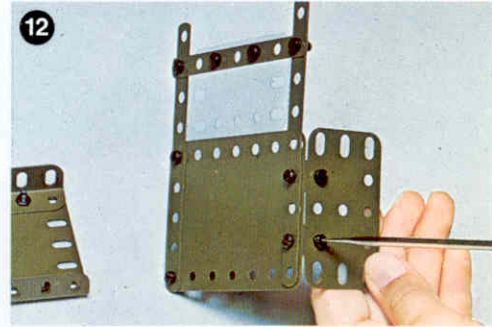
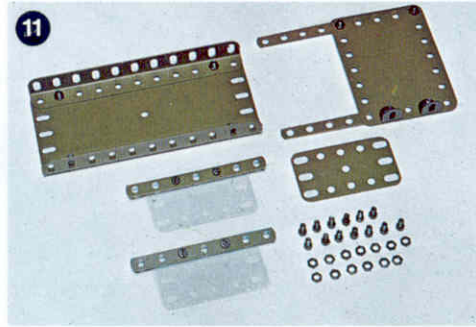
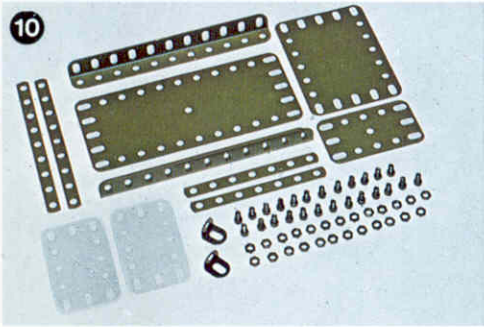
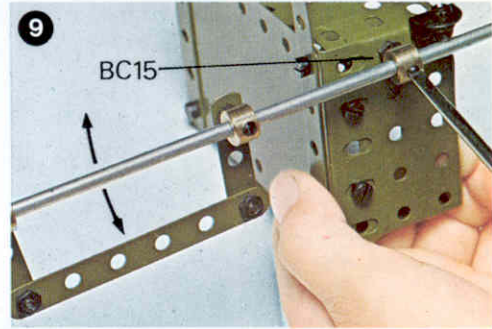
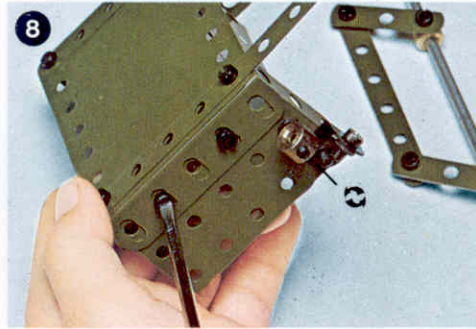
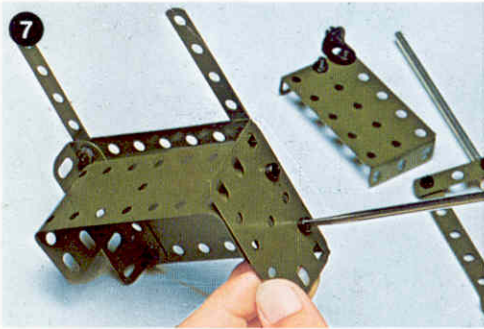
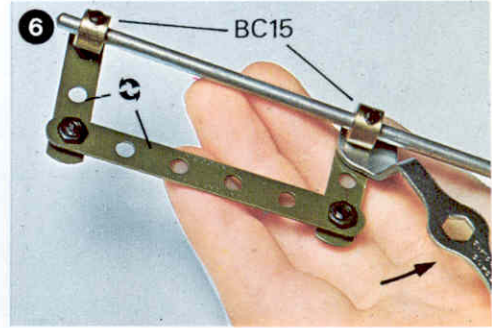
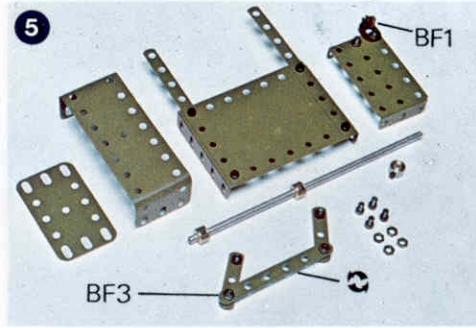
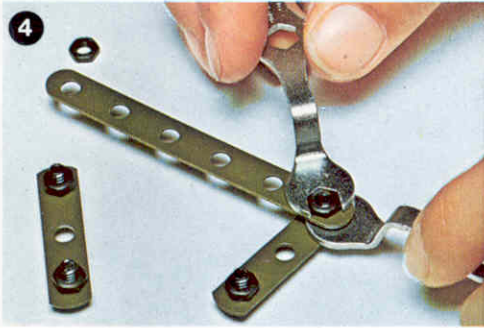
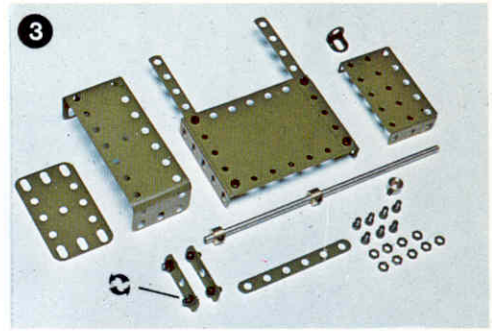
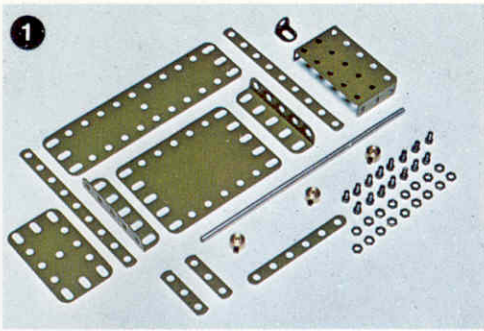


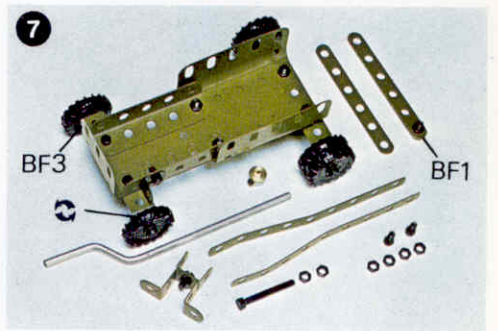
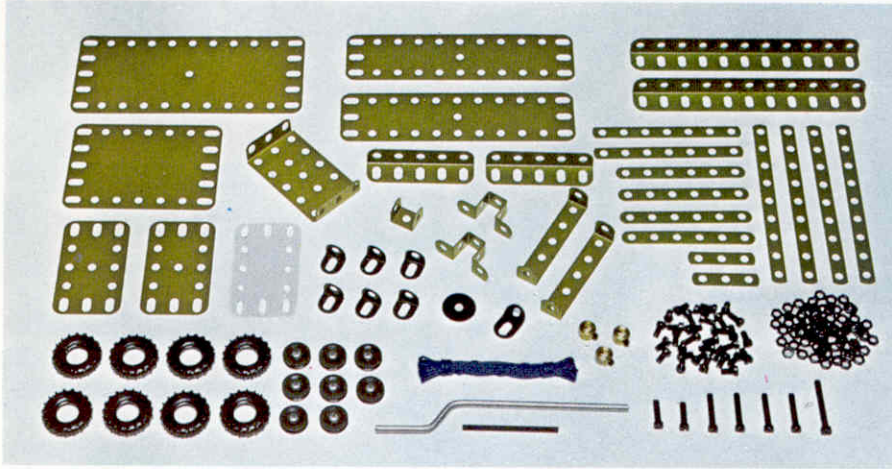
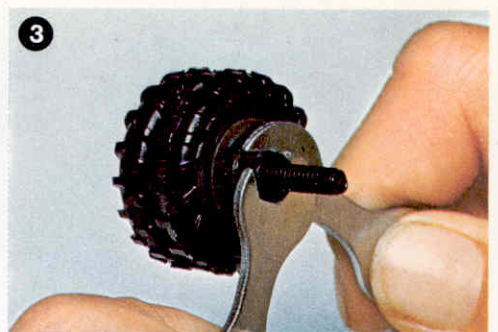
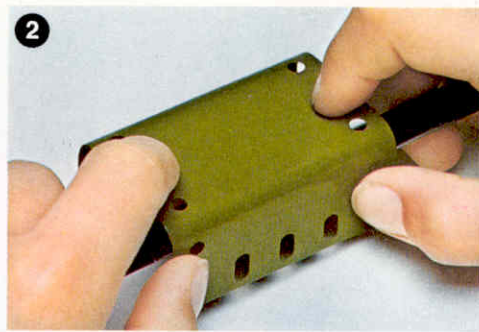
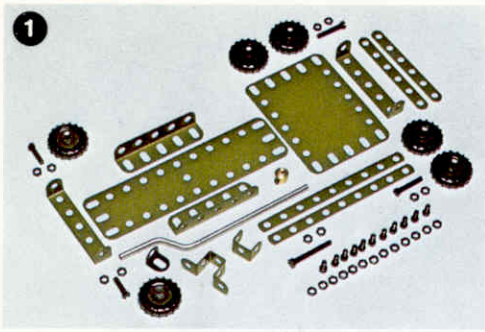


# FRONTIER CHECKPOINT

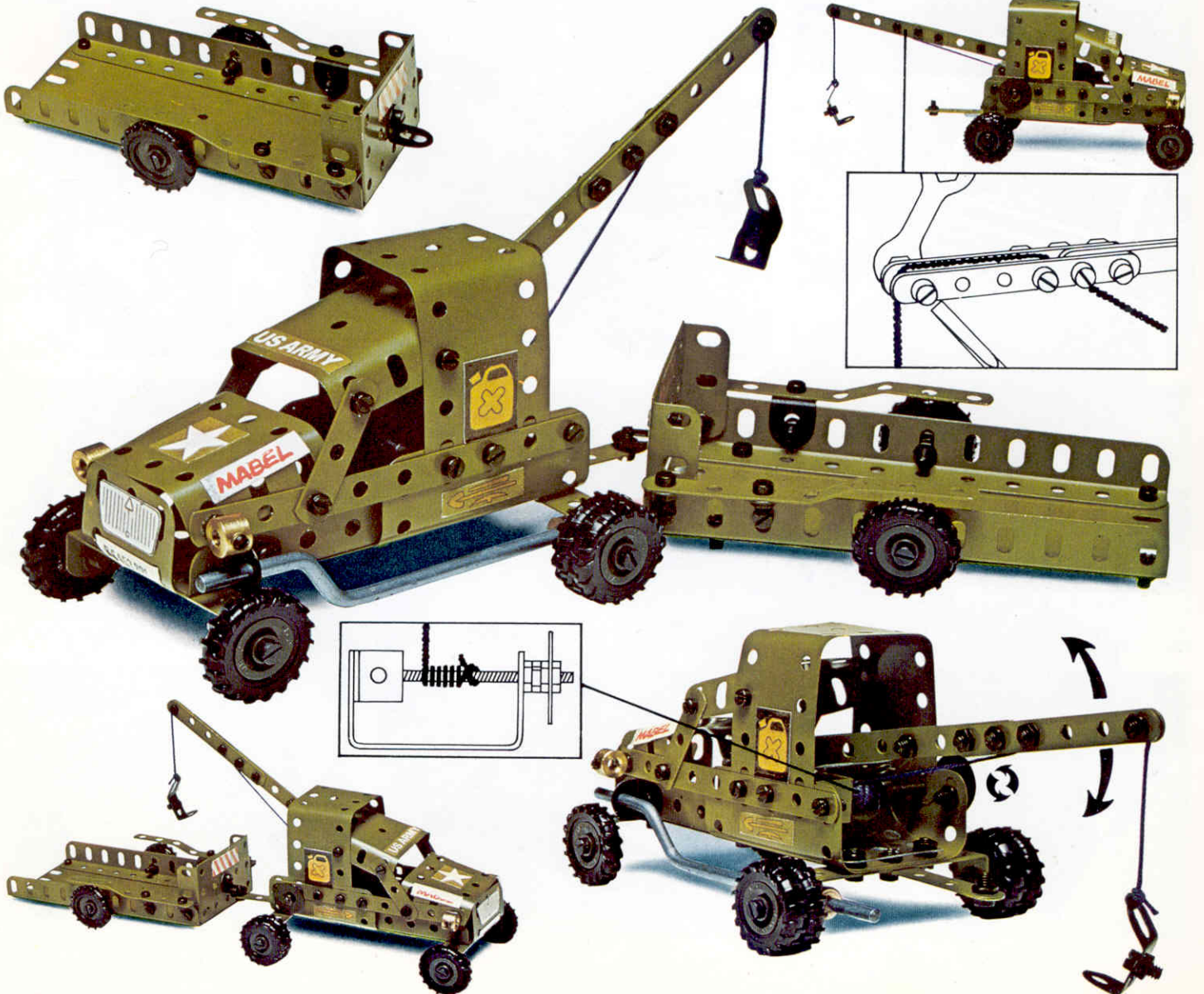


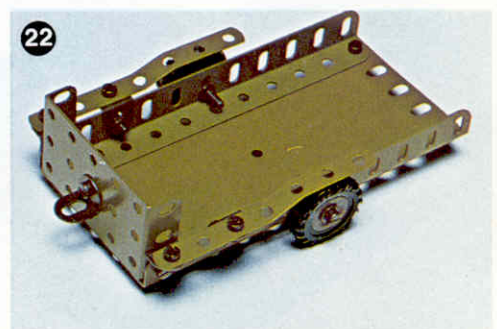
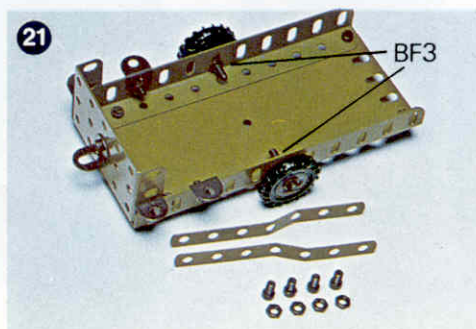
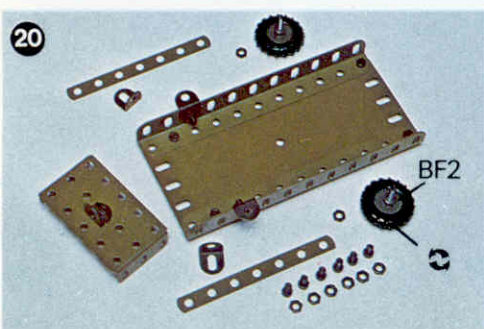
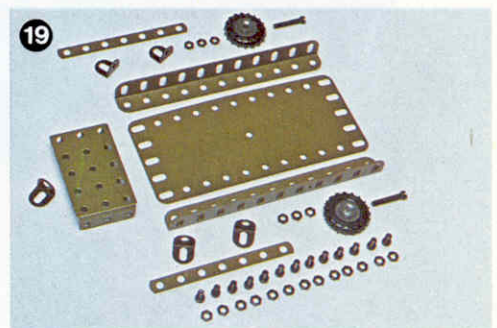
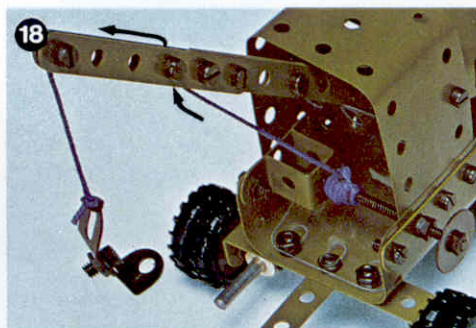
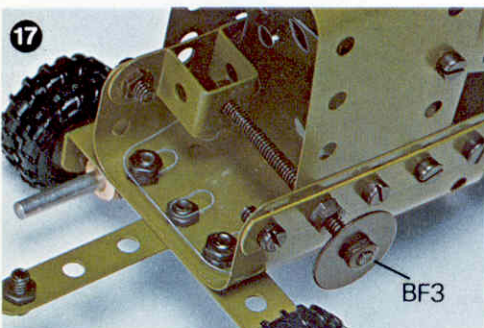
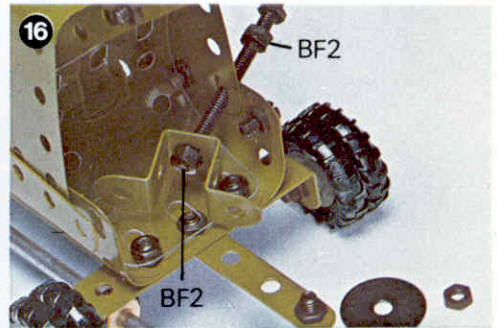
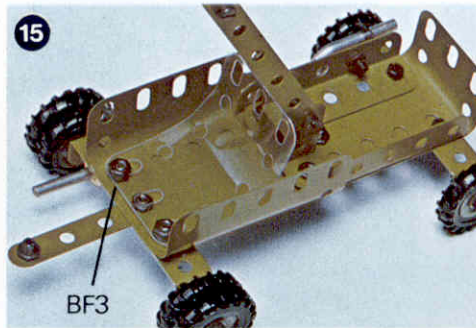
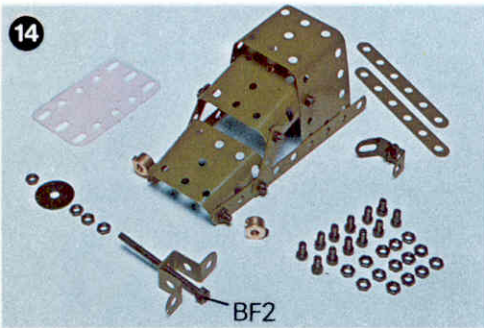
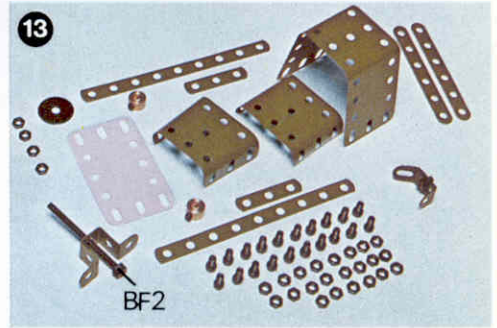
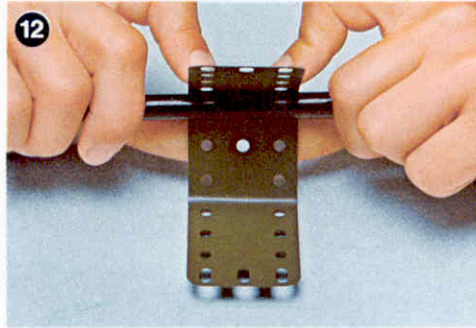
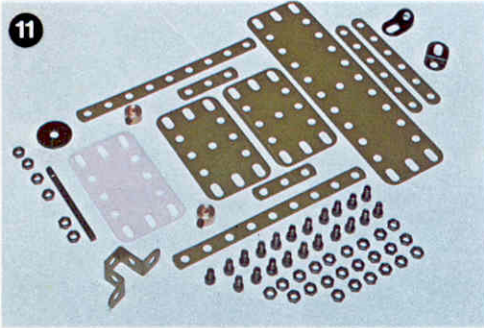
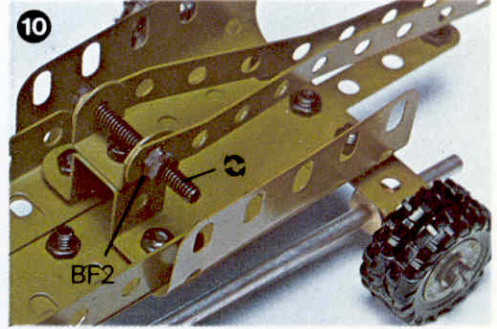
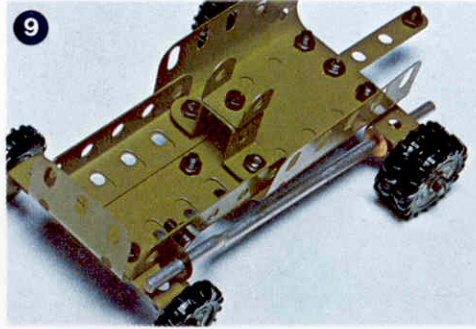
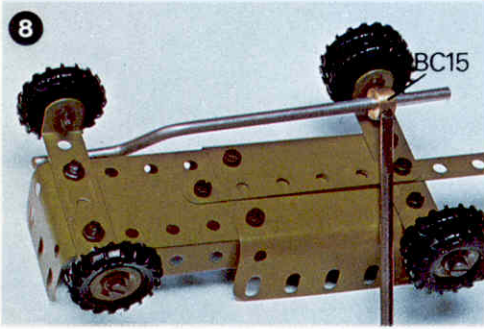
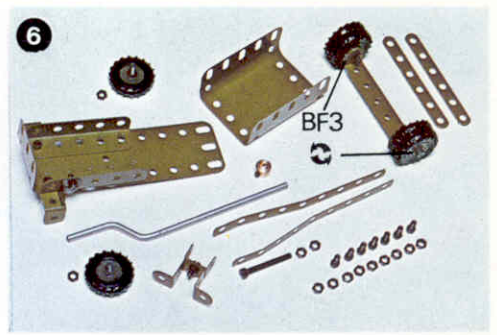
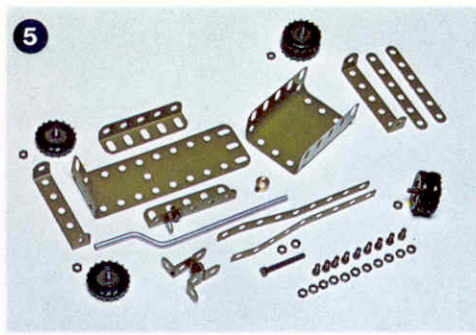
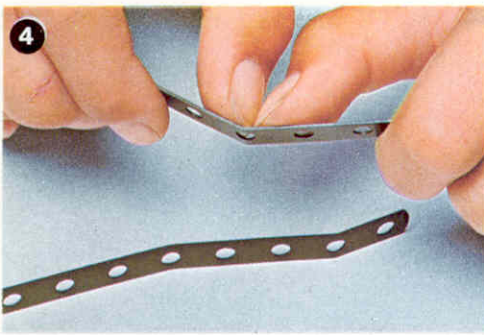


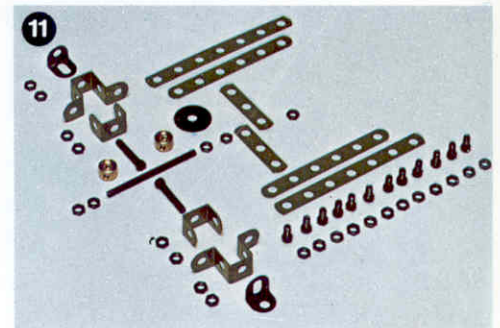
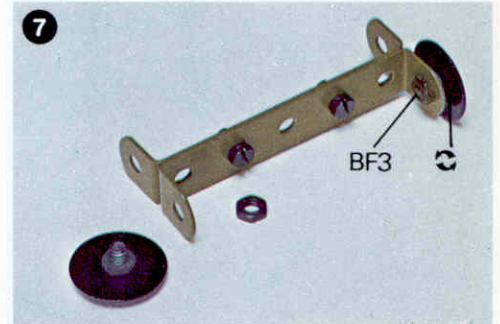
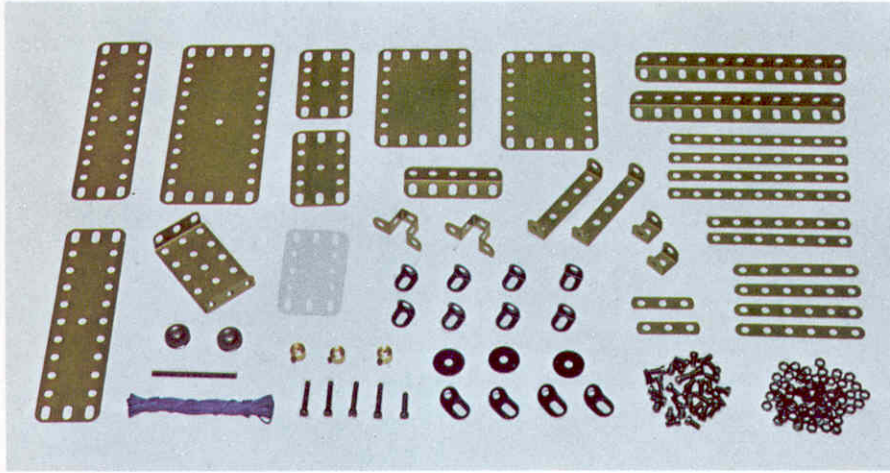
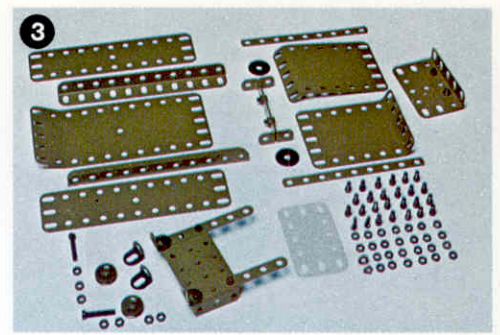
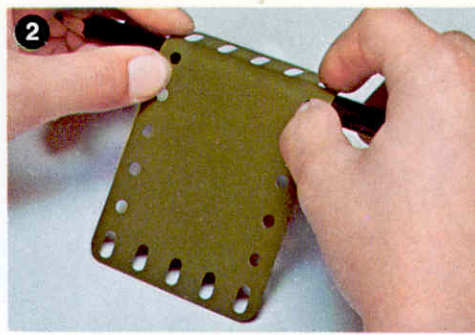
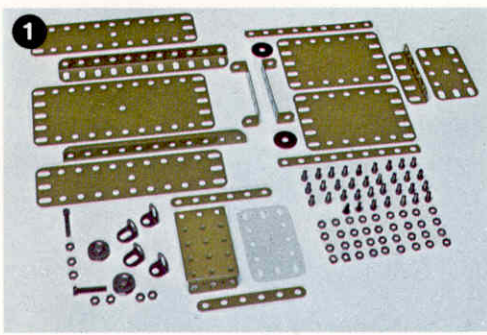




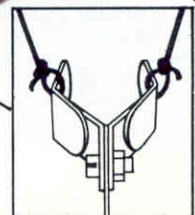
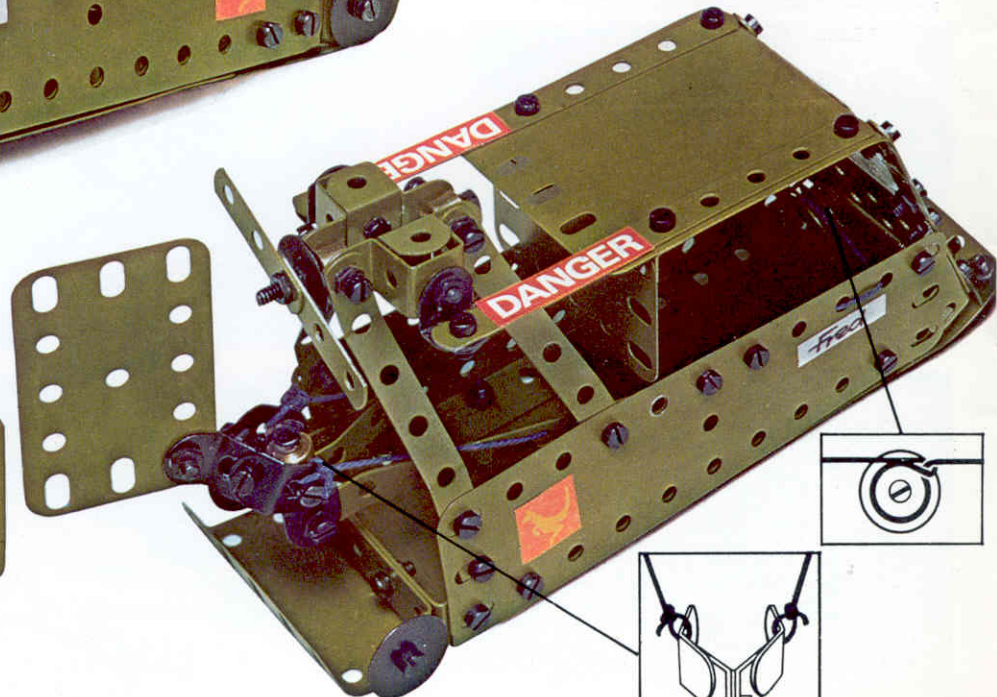
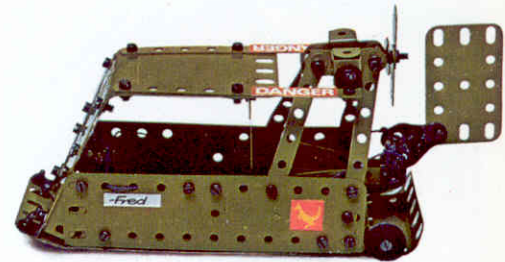
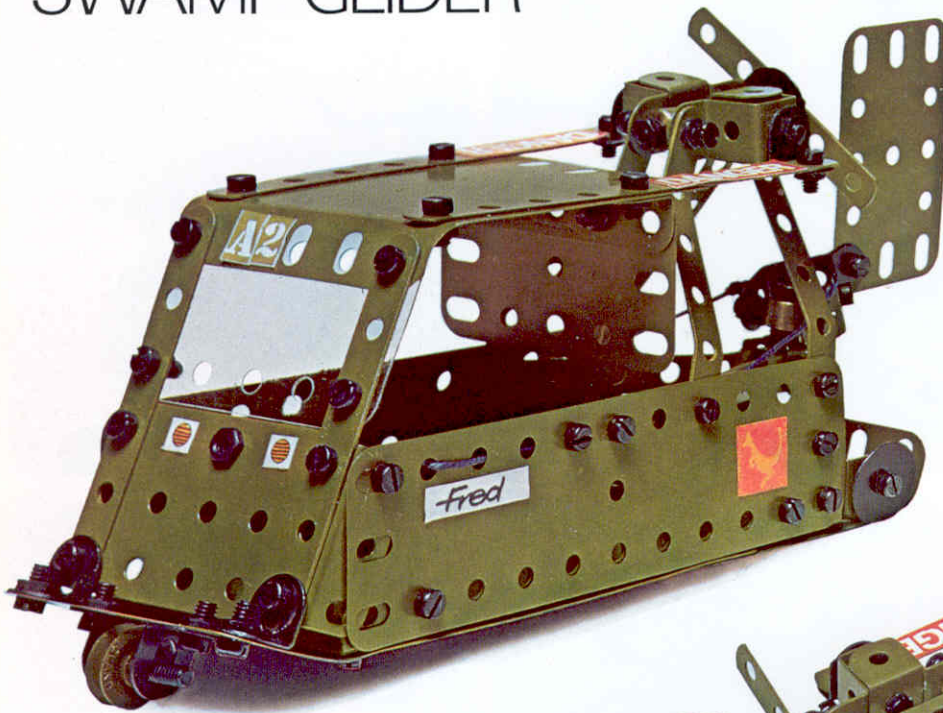
# BREAKDOWN RECOVERY TRUCK

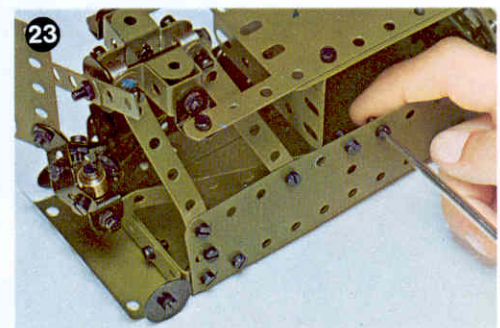
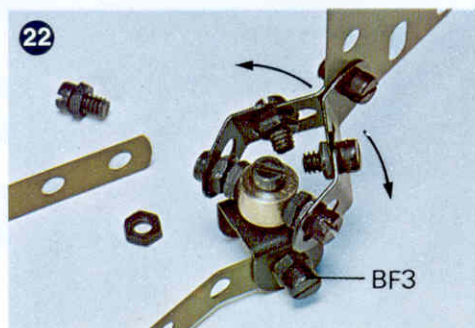
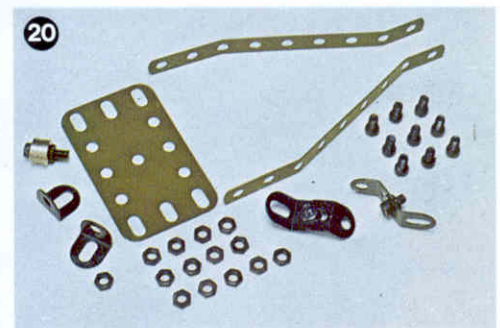
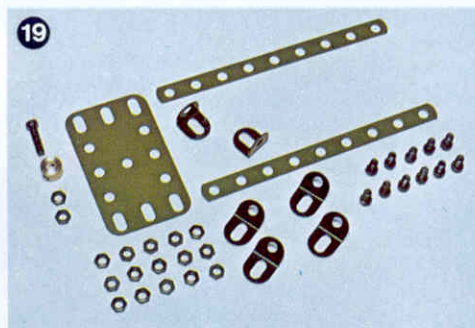
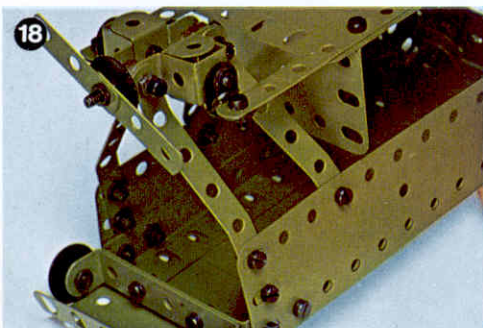
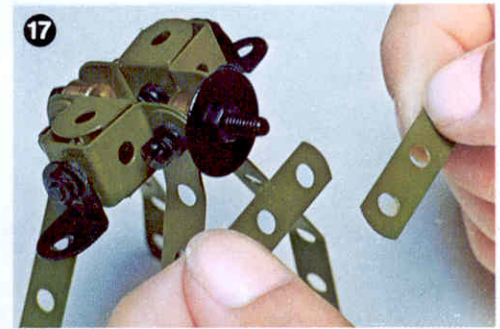
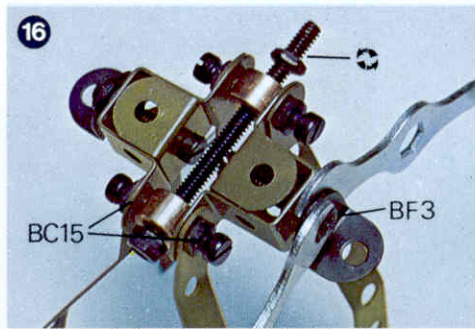
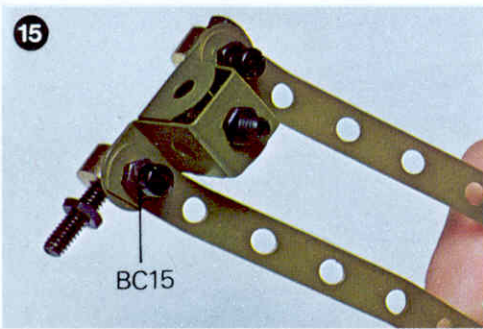
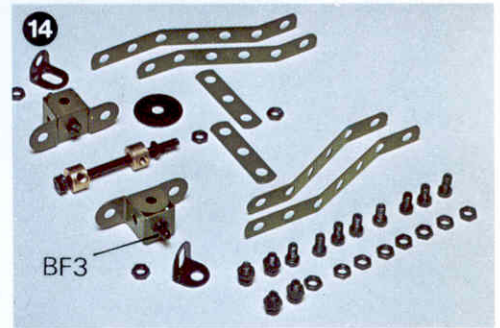
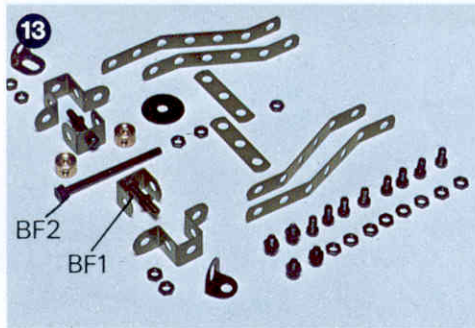
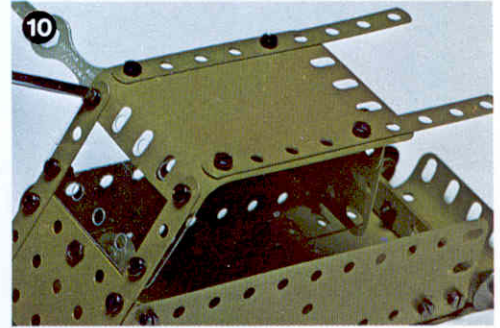
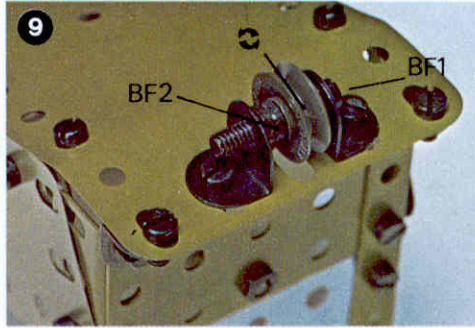
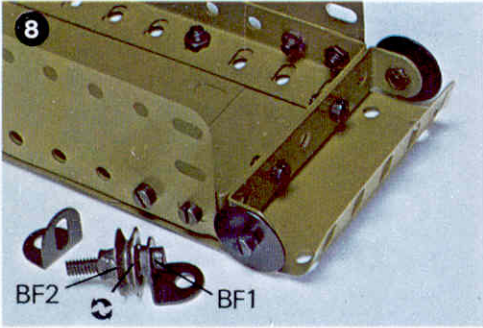
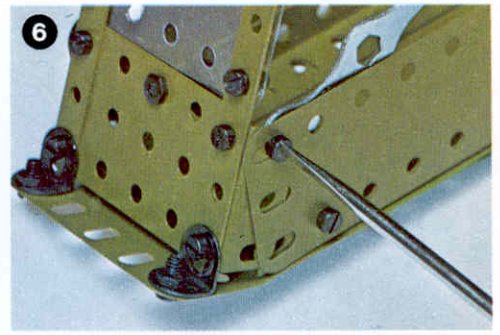
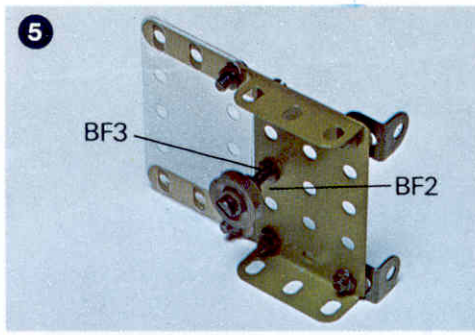
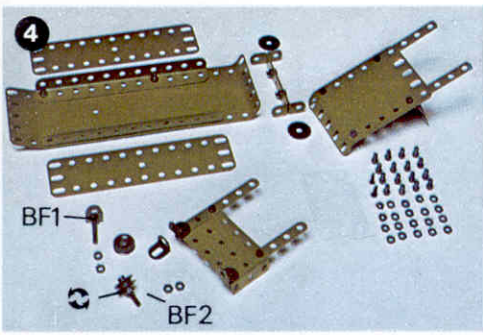


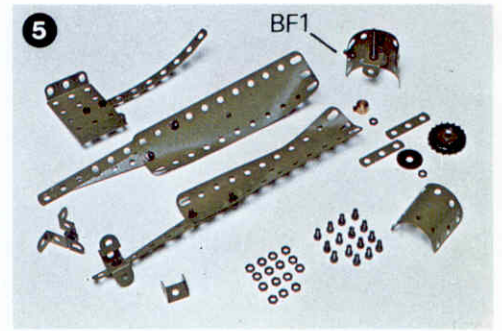
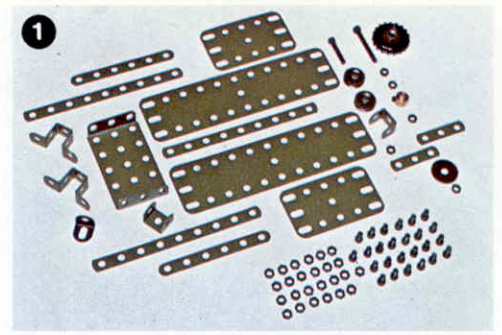
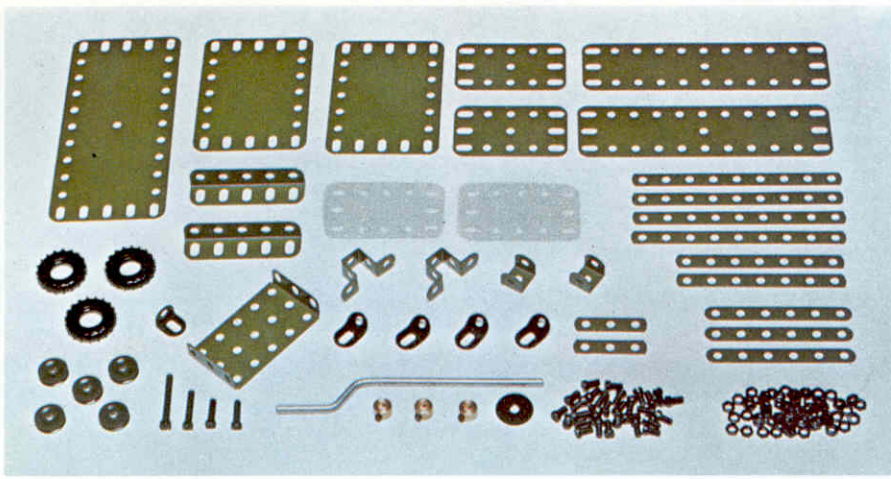




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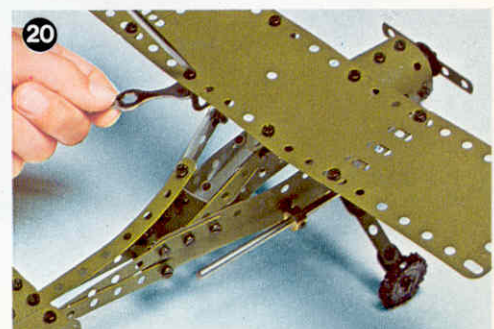
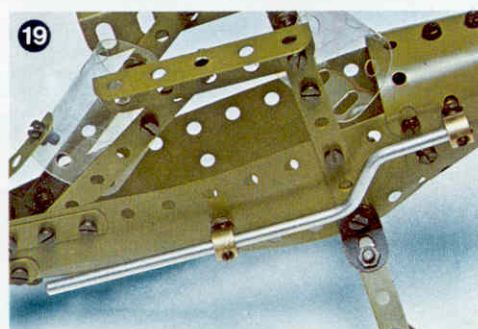
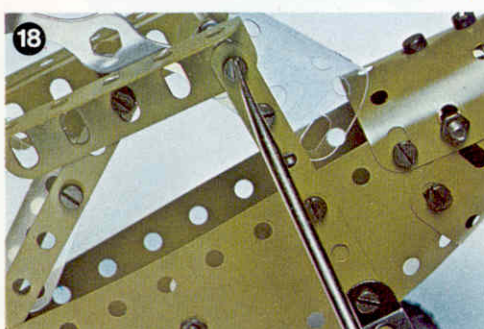
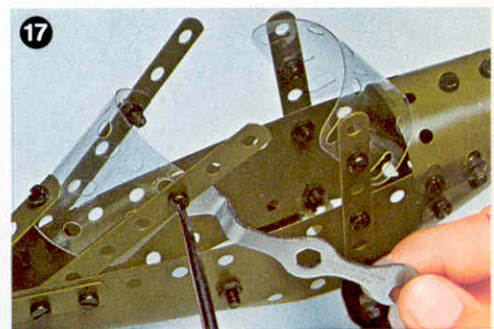
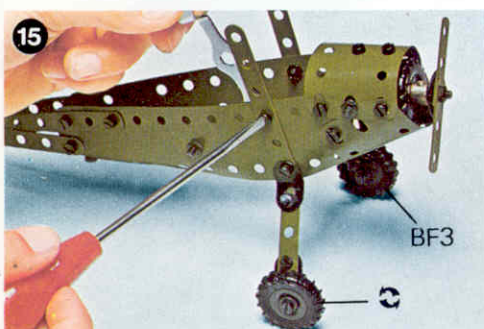
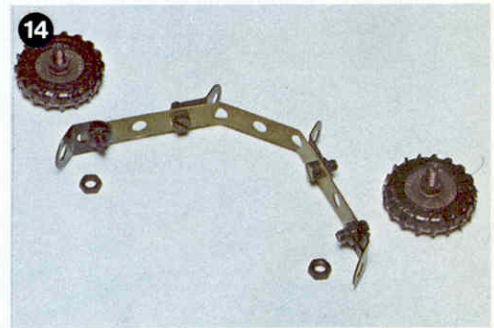
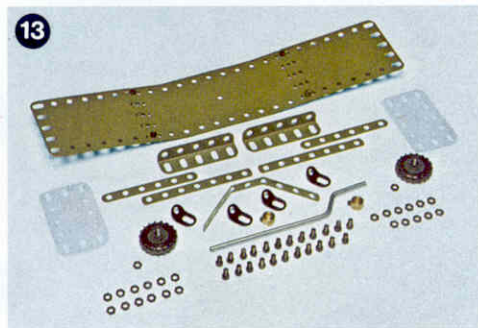
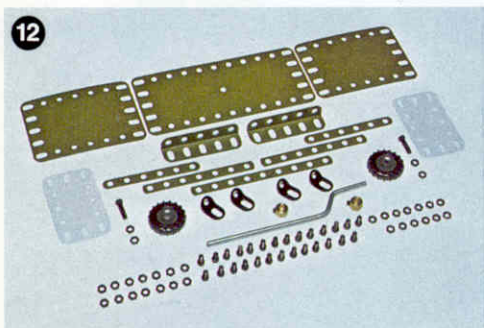
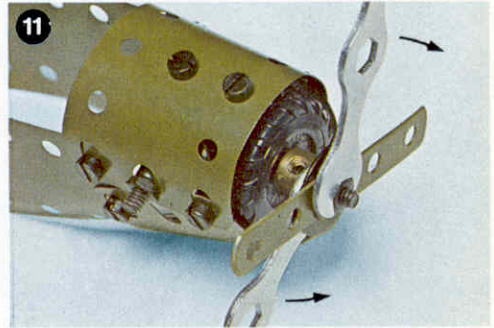
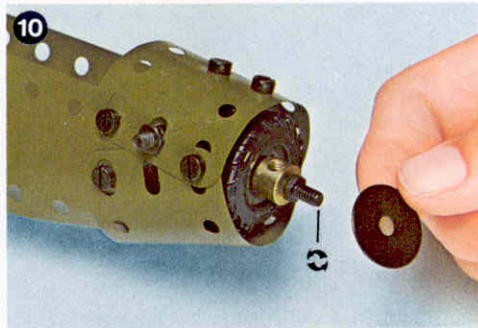
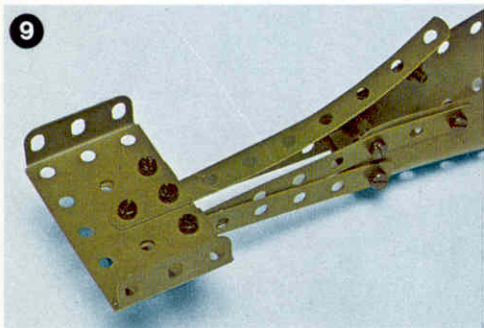
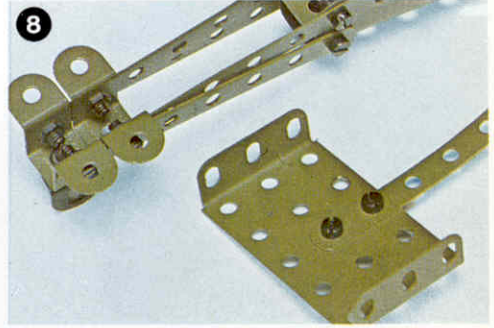
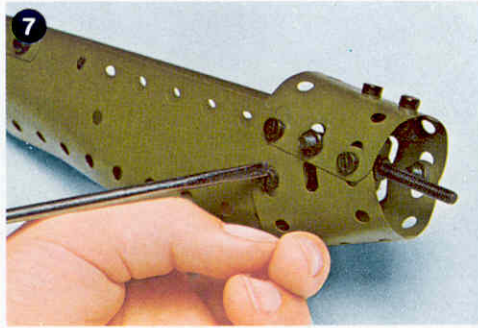
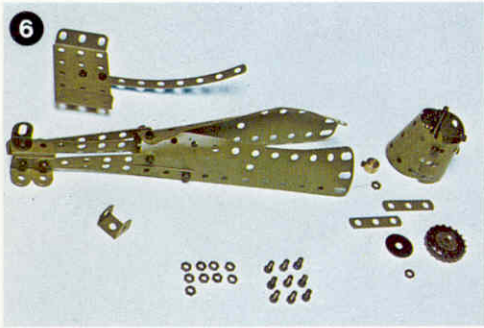
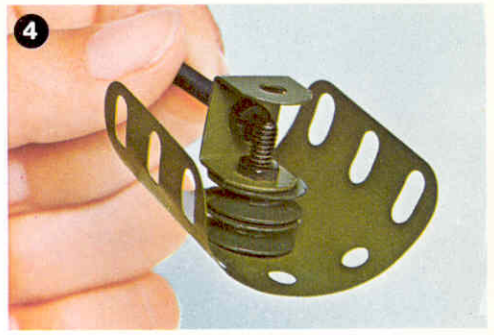
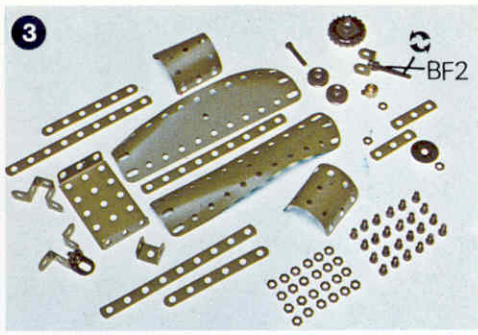


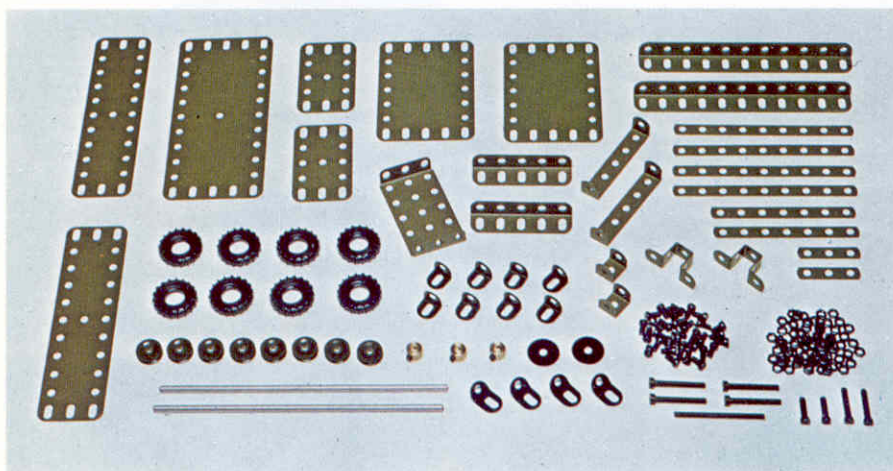
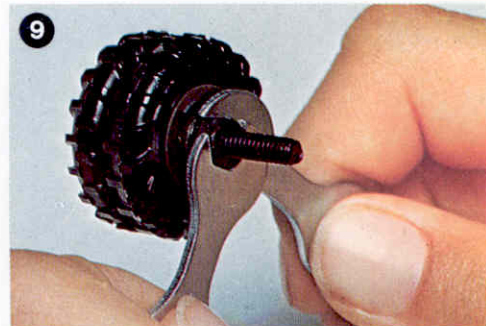
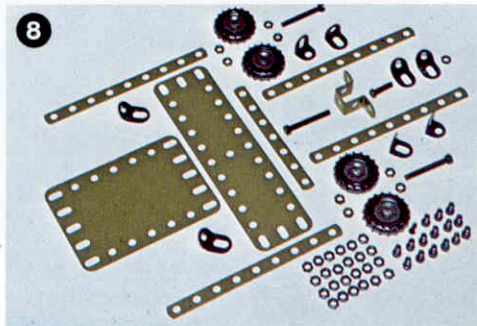
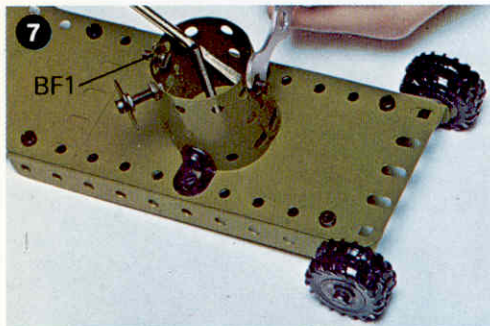
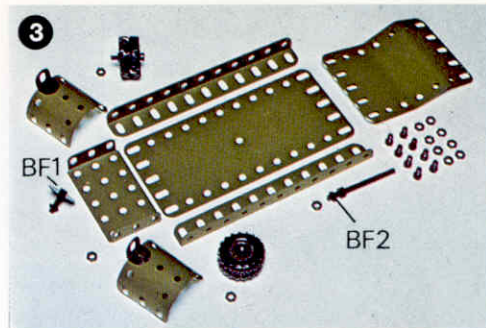
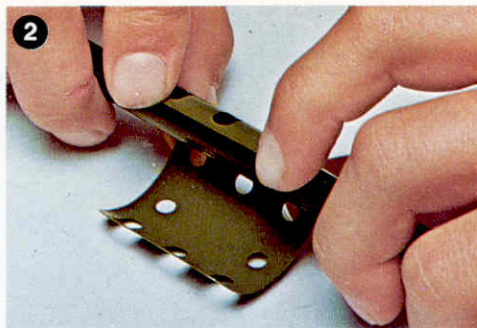
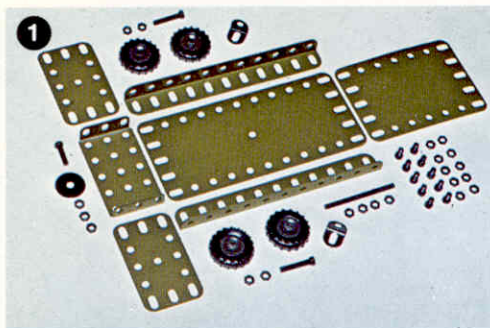




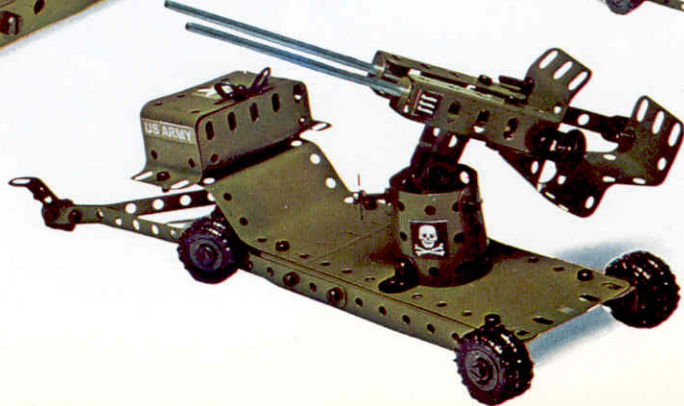
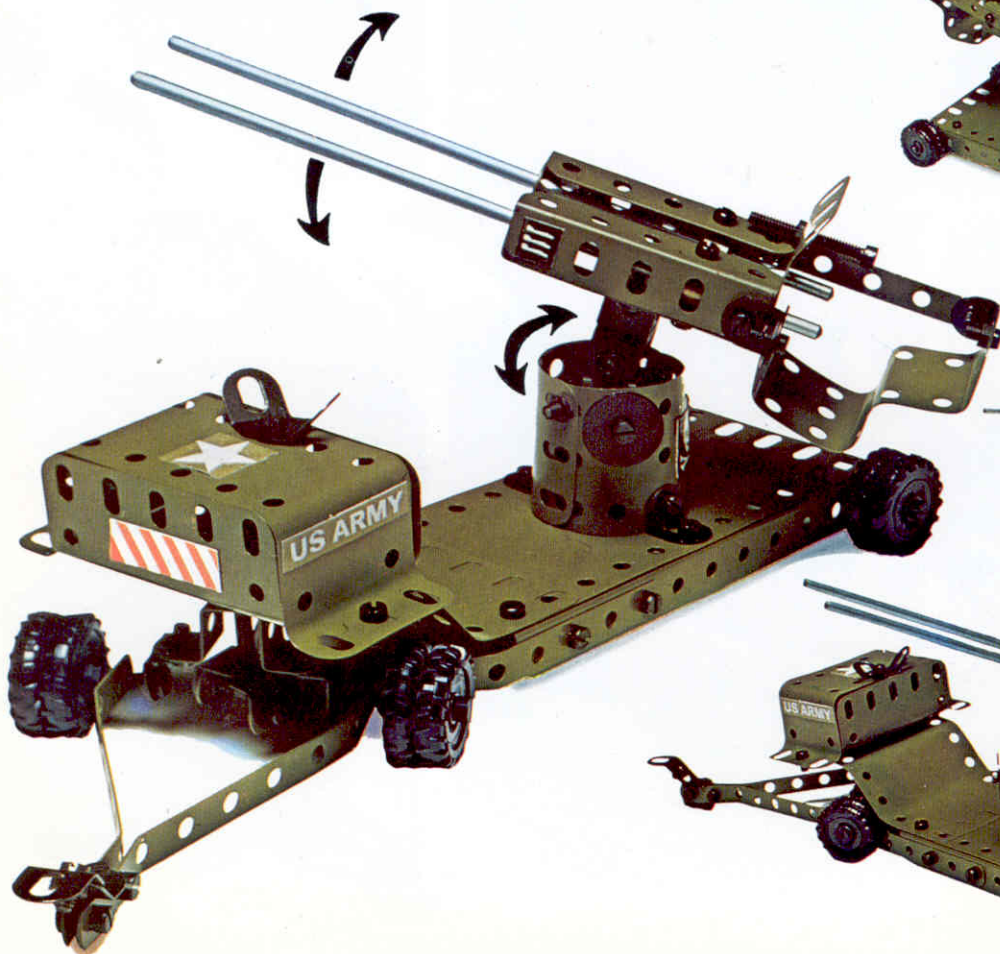
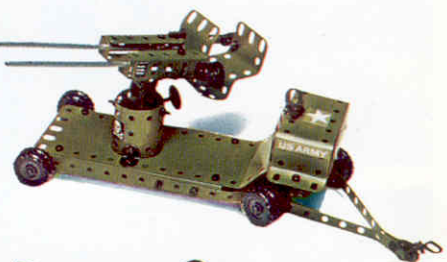
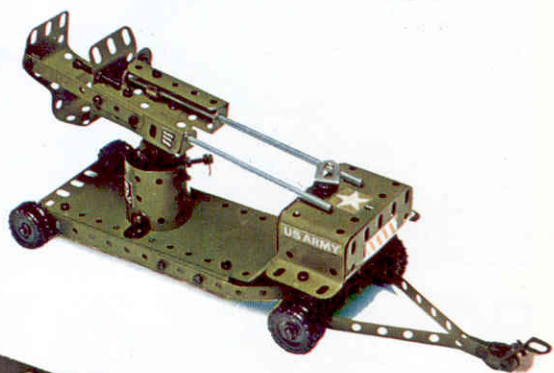
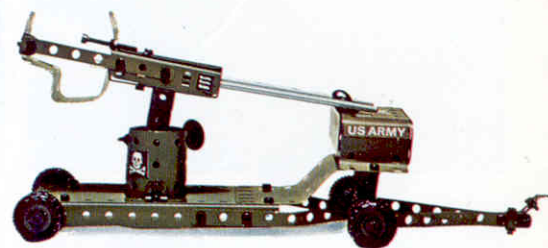
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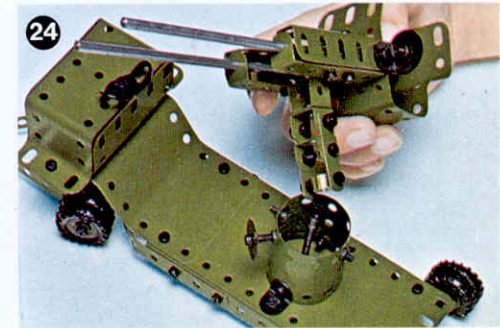
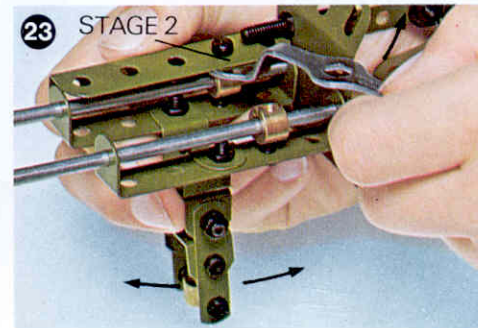
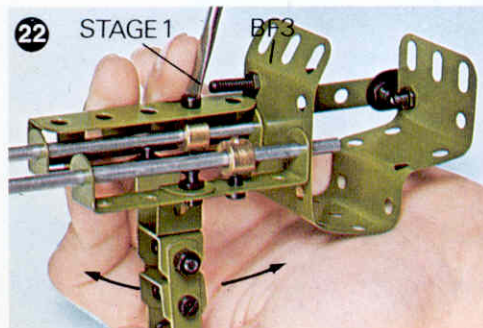
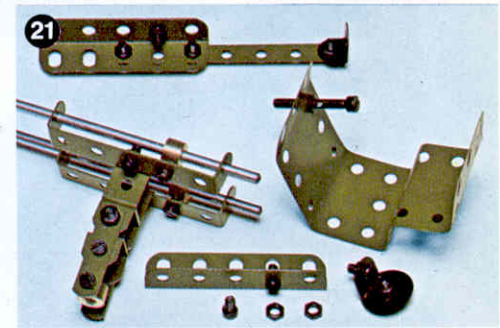
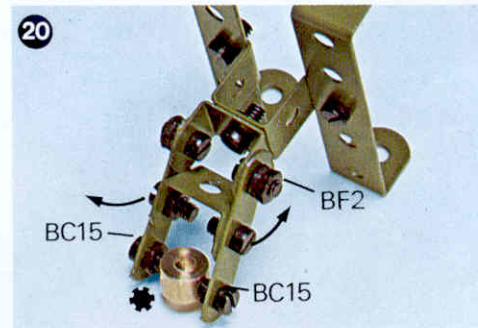
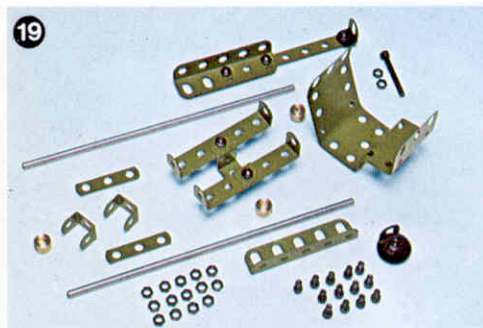
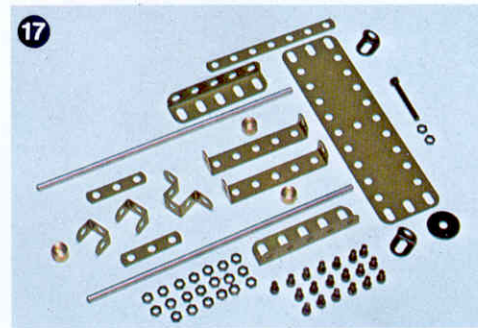
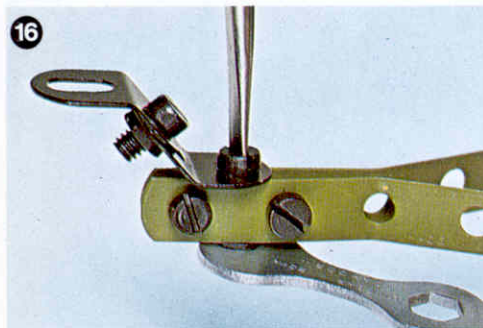
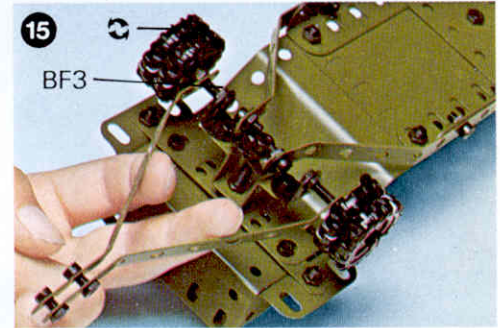
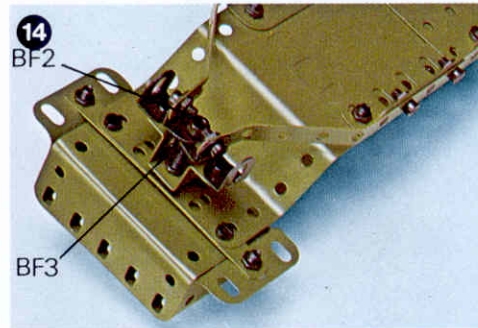
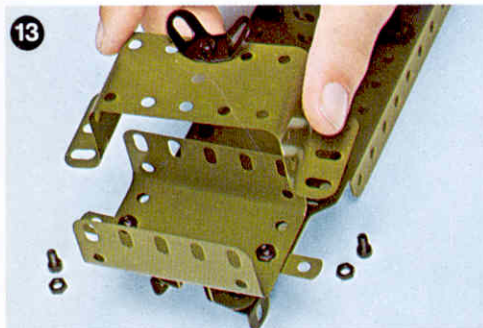
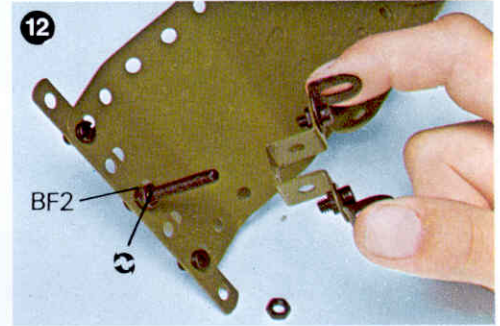
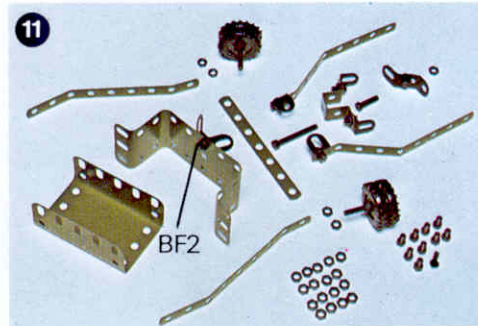
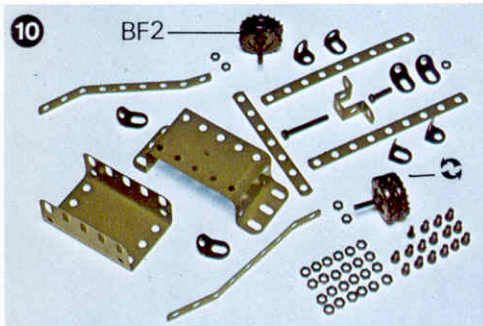
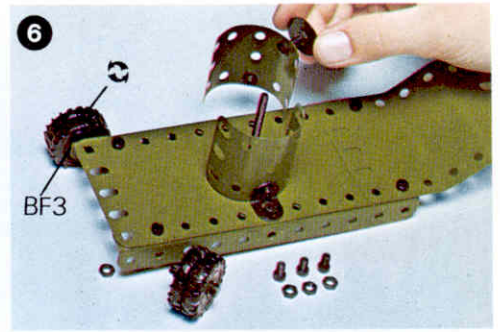
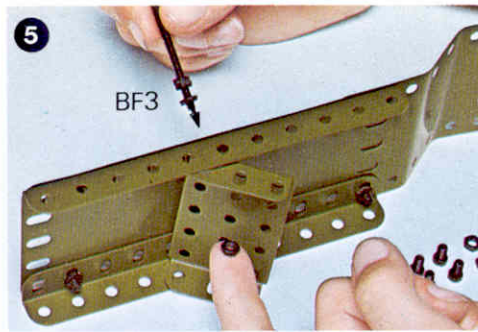
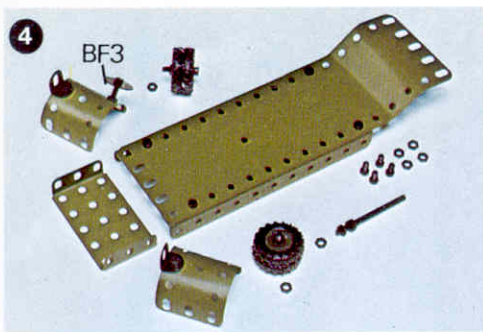


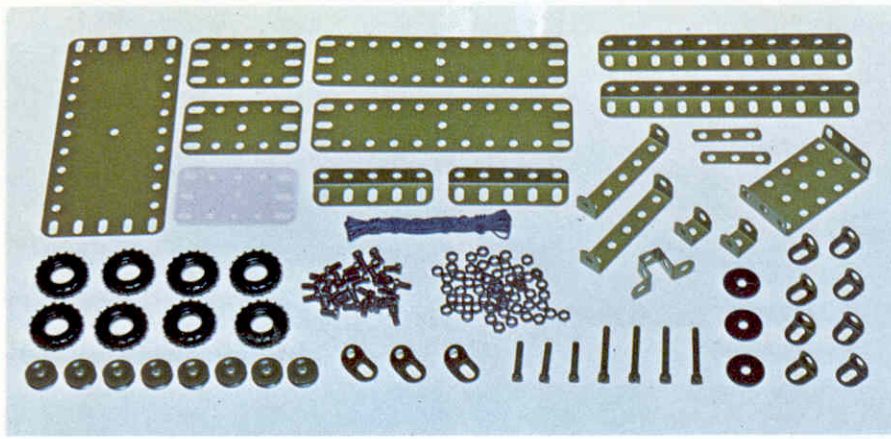


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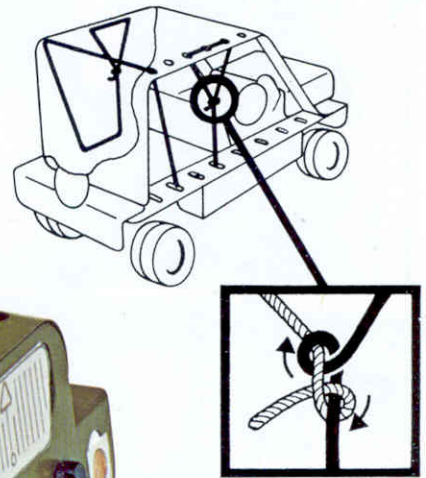
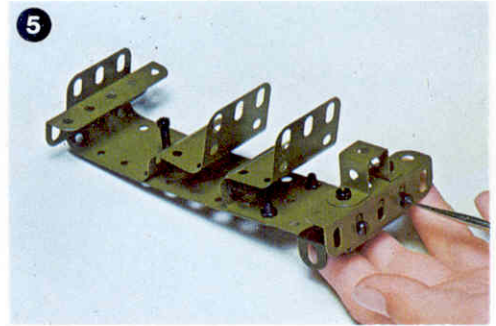
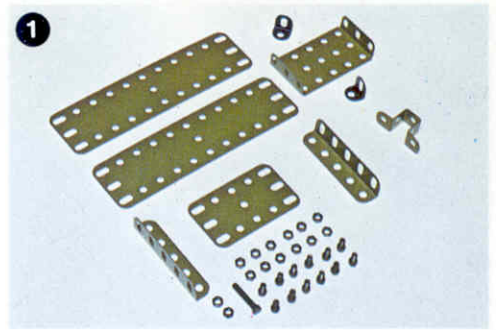


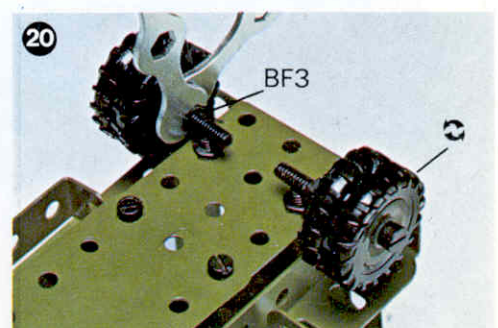
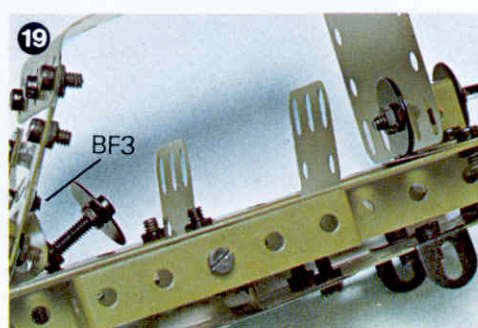
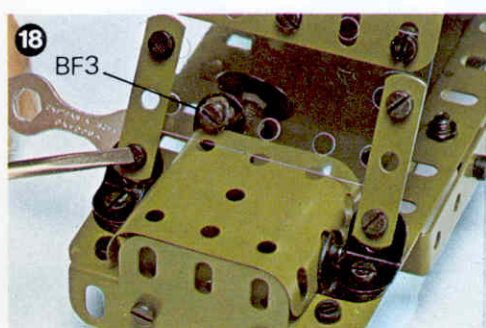
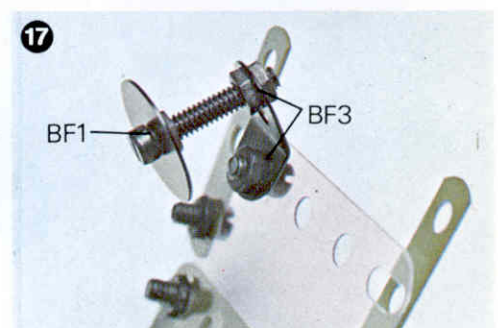
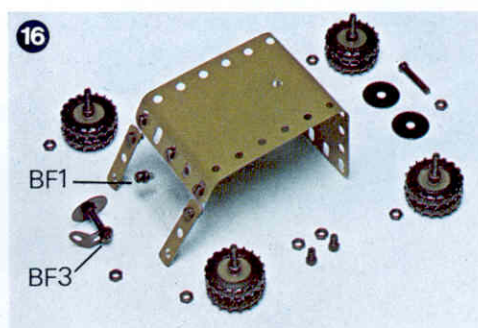
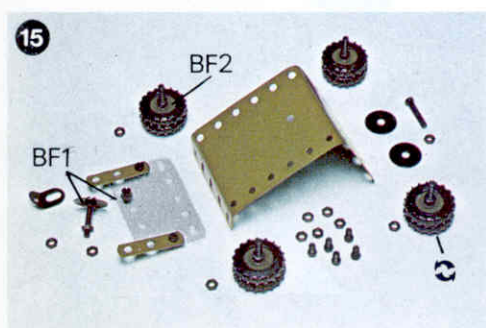
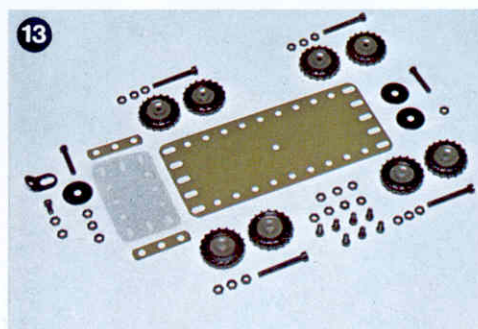
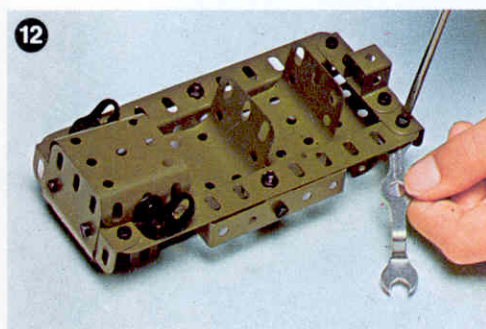
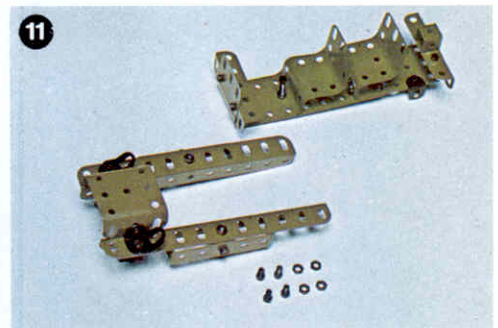
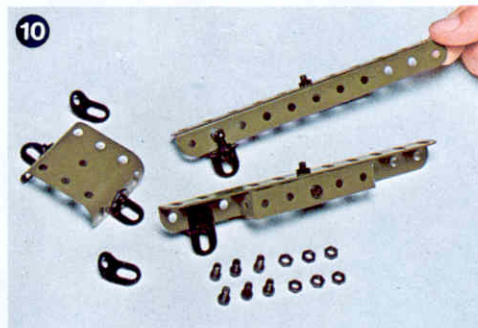
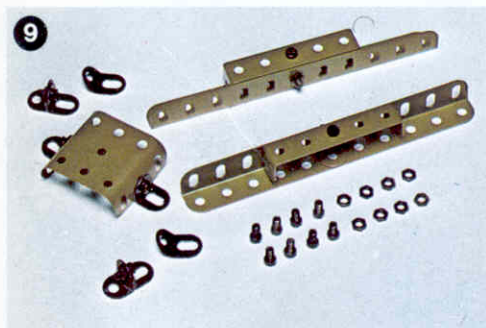
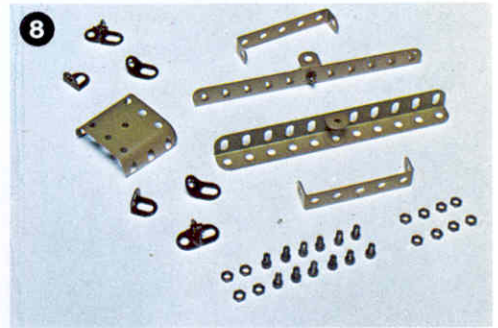
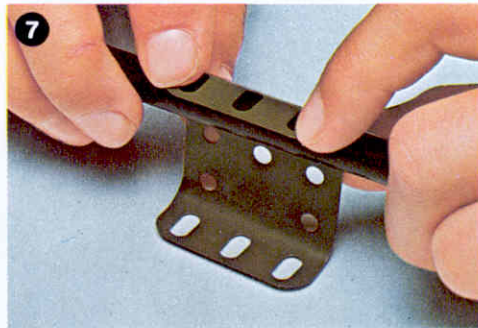
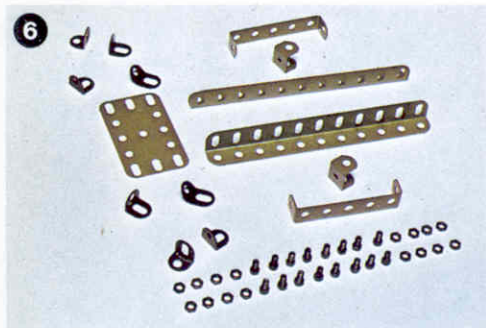
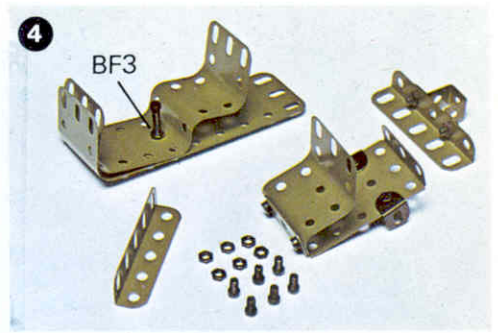
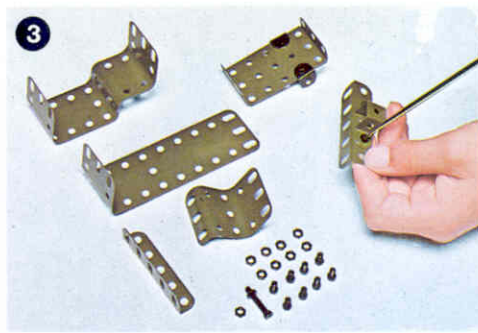


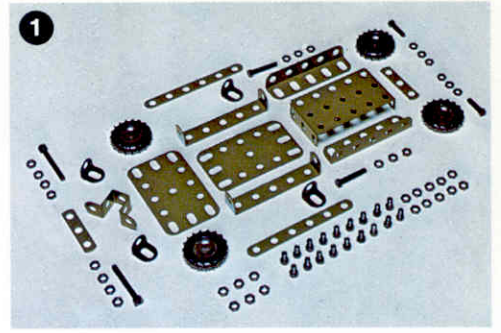
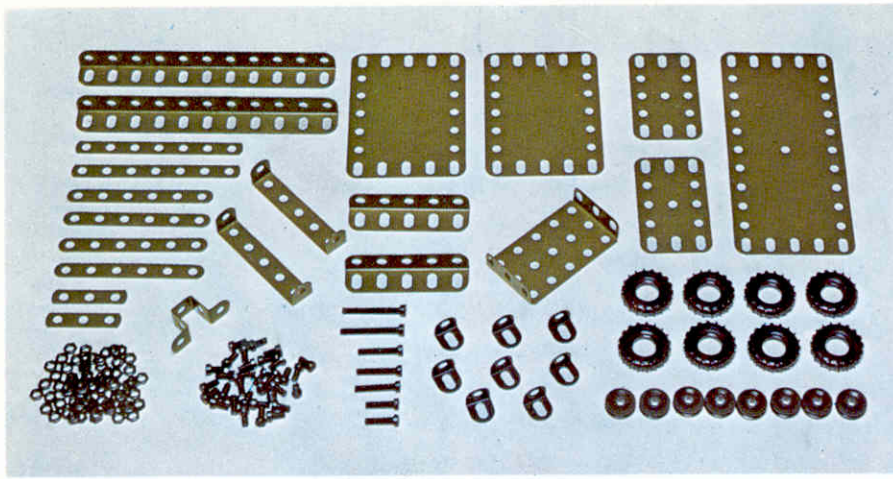




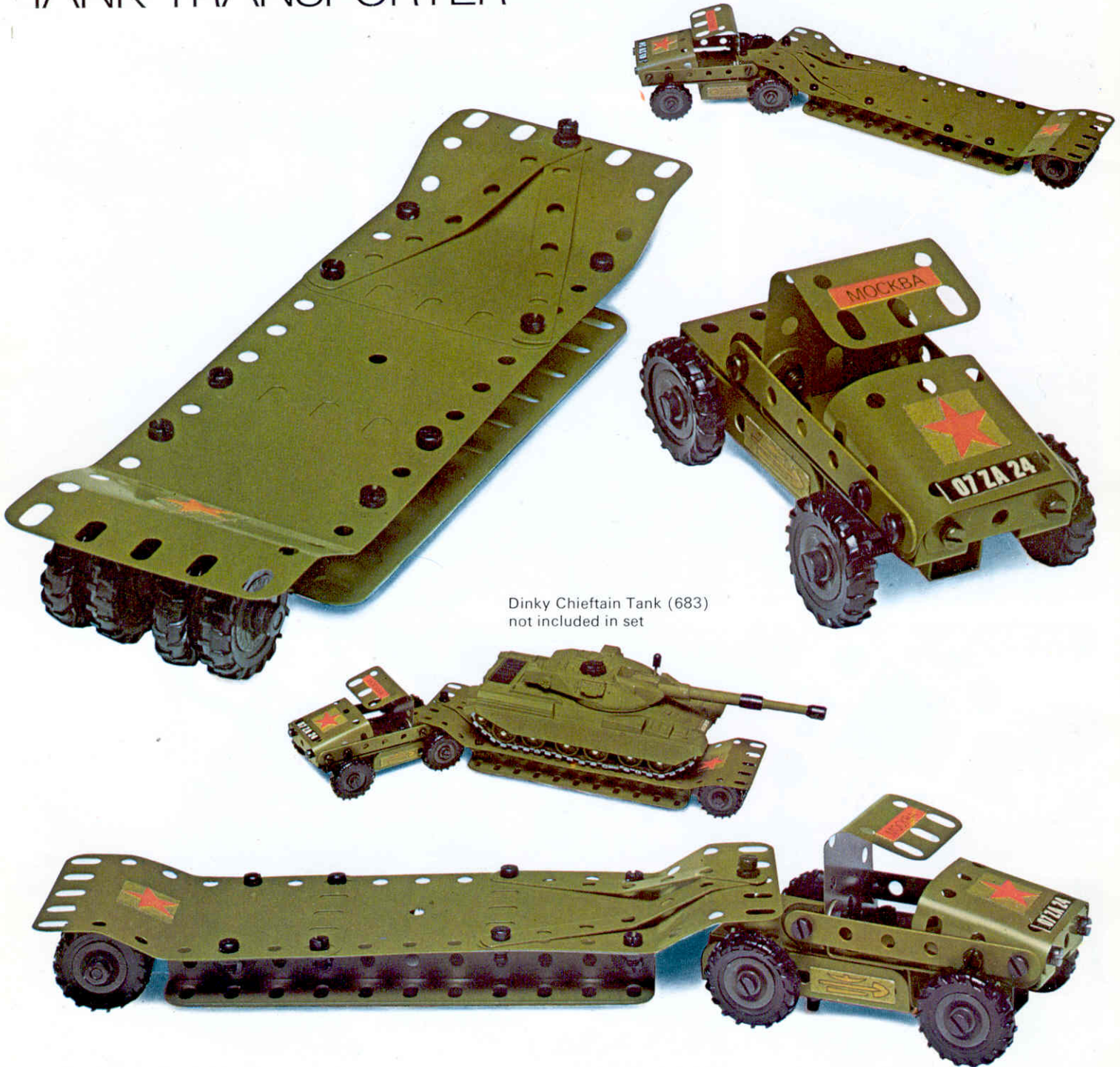
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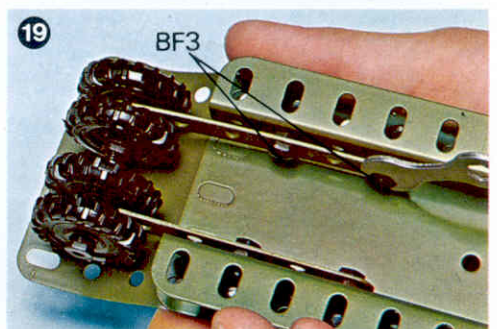
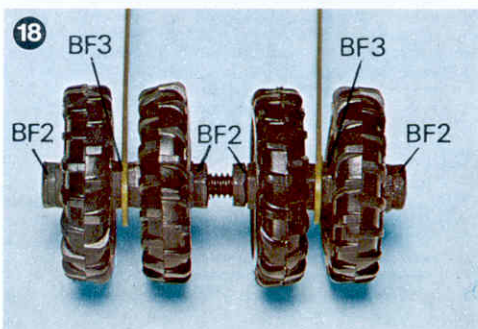
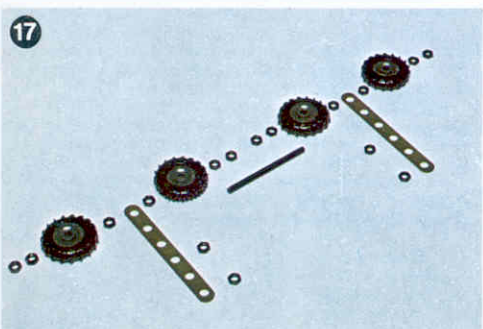
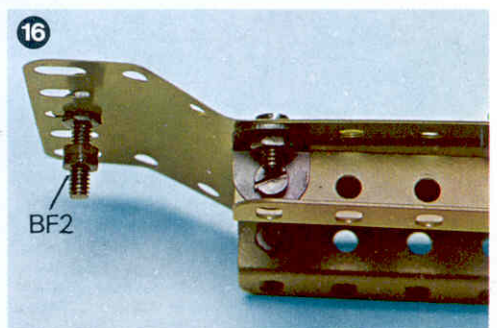
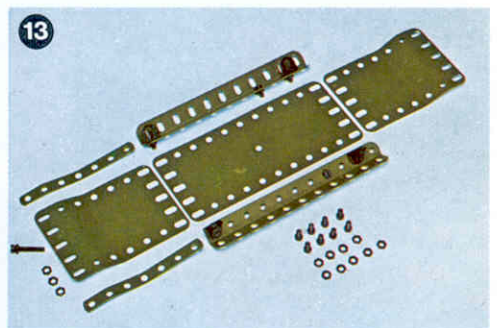
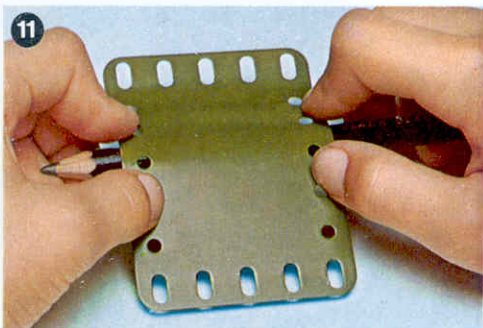
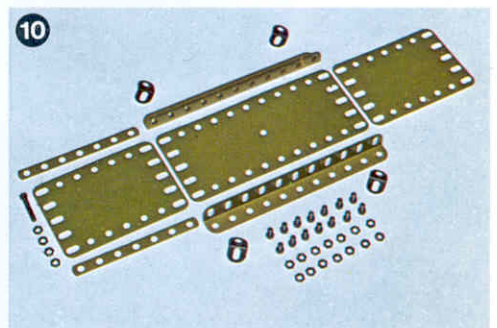
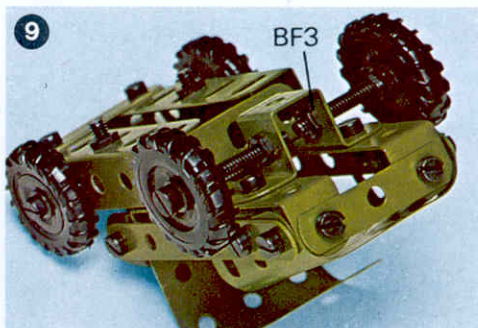
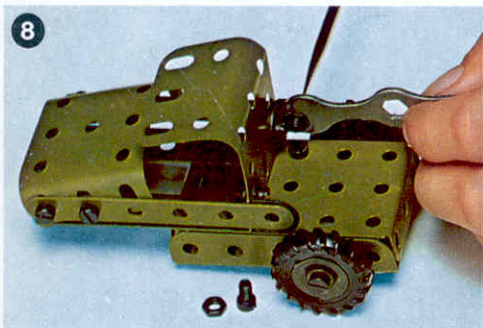
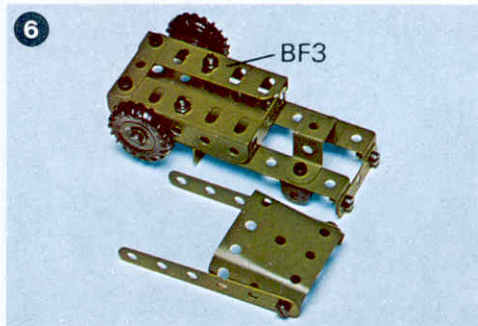
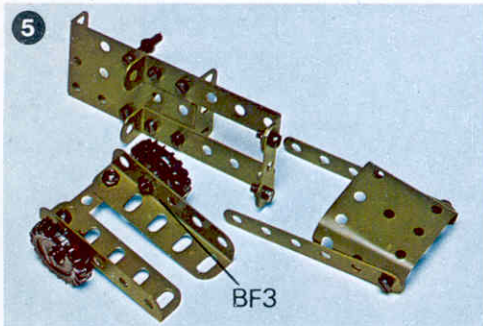
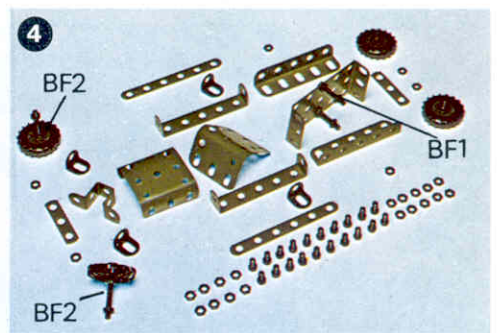
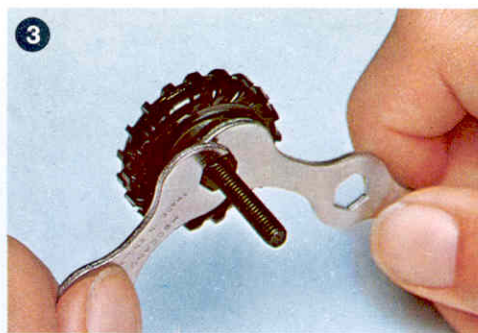
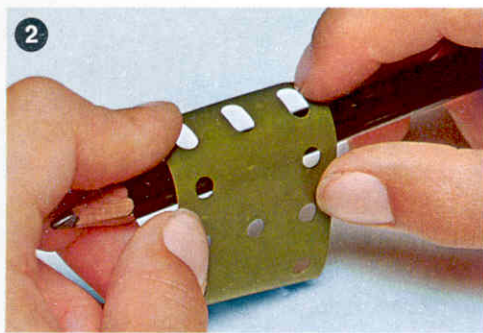


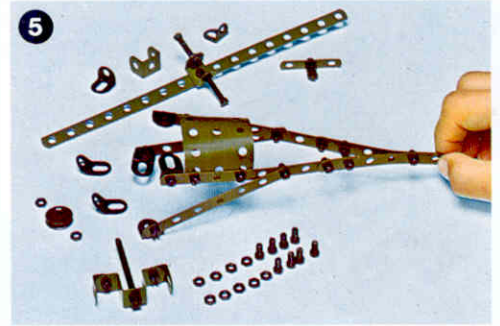
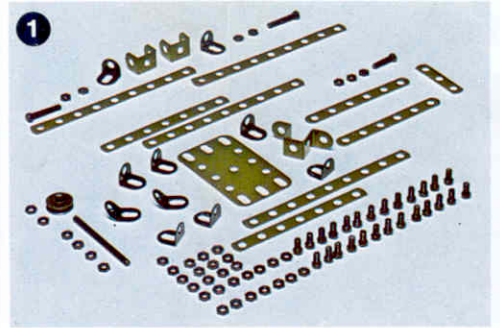
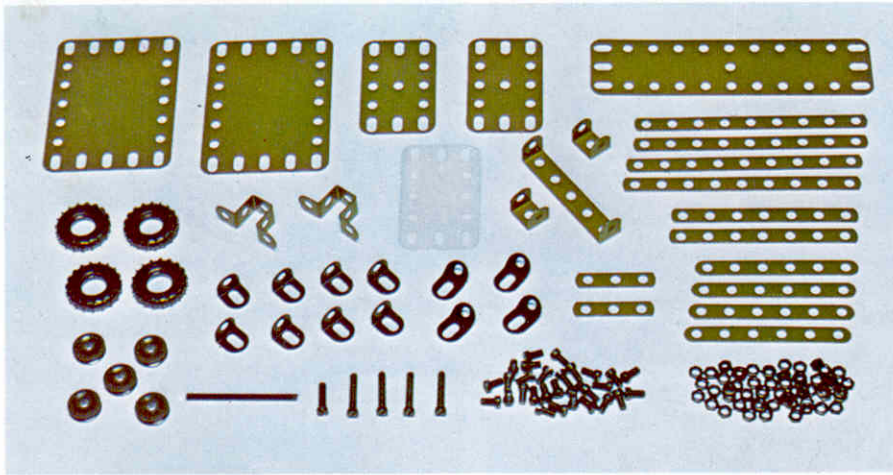


# TANK TRANSPORTER



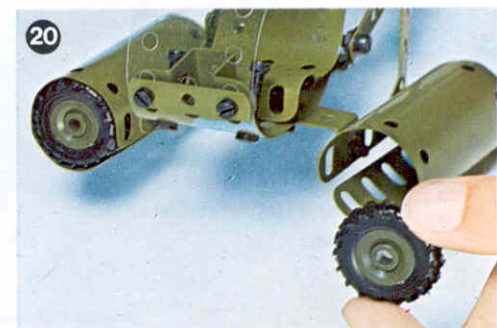
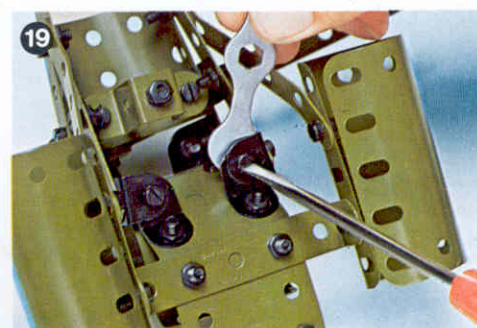
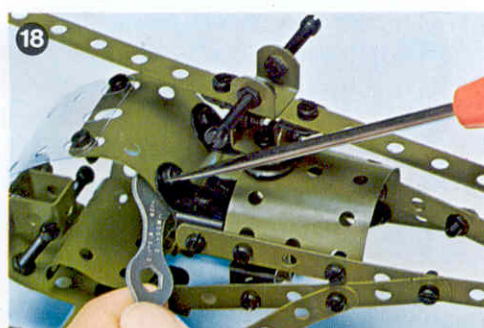
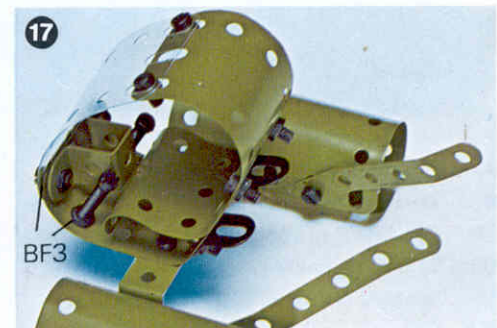
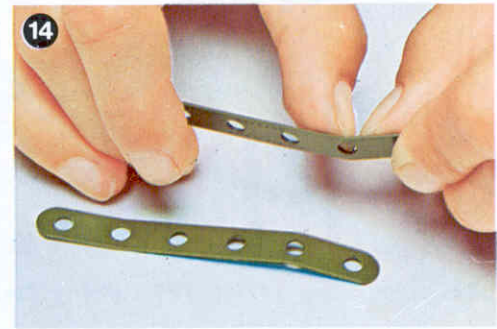
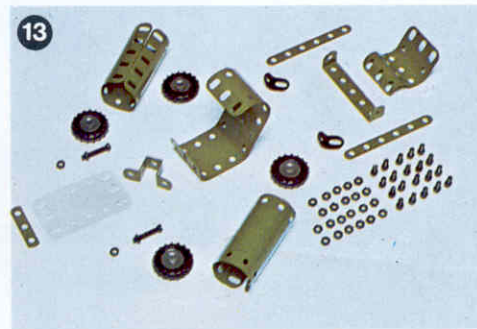
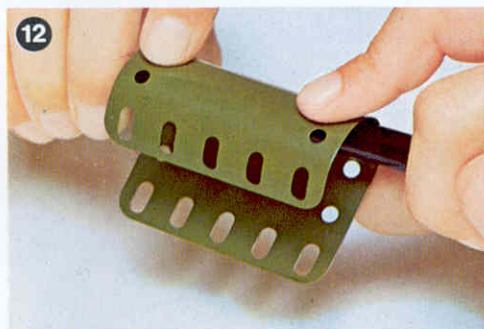
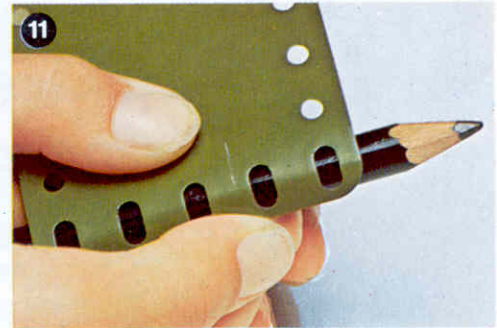
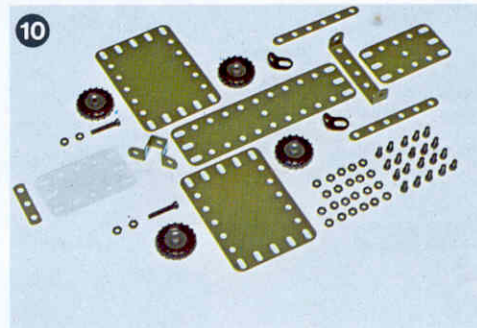
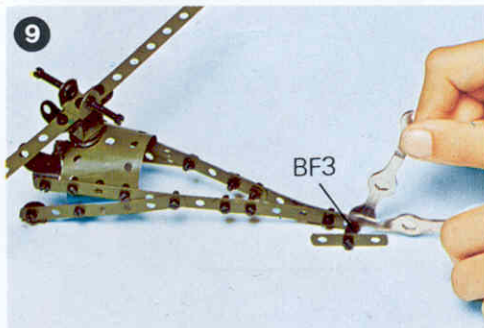
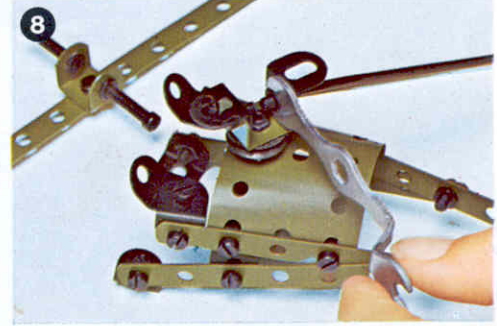
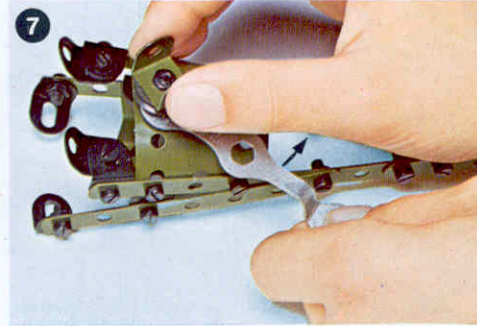
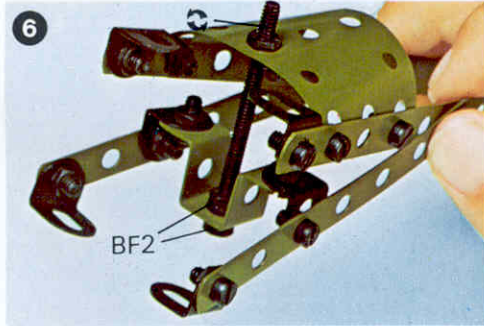
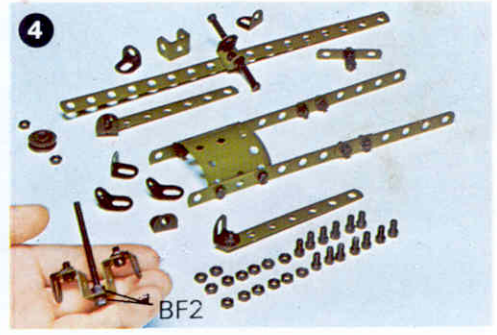
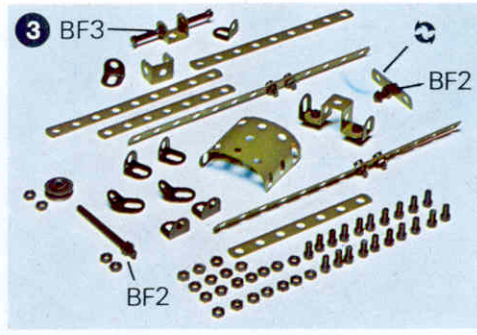
Dinky Chieftain Tank (683)  
not included in set

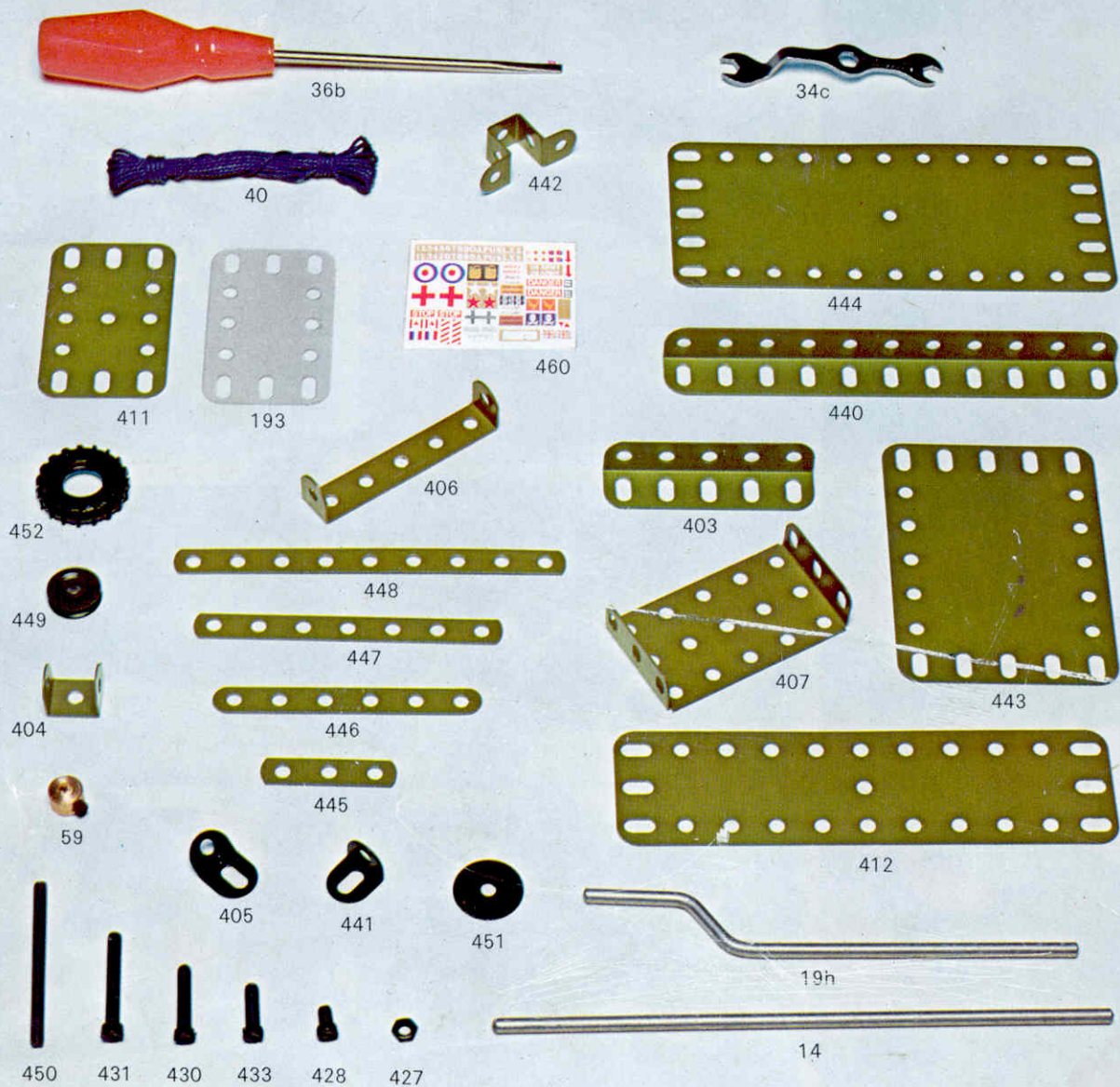




# HELICOPTER







**Part**

**No. Description**

14	6½" Axle Rod 165mm.	406	2½" x ½" Double Angle Strip 63 x 12mm.	443	3½" x 2½" Flexible Plate 90 x 63mm.
19h	5" Crank Handle 127mm.	407	2½" x 1½" Flanged Plate 63 x 38mm.	444	5½" x 2½" Flexible Plate 140 x 63mm.
34c	Spanner (for Hex. Nut)	411	2½" x 1½" Flexible Plate 63 x 38mm.	445	1½" Narrow Strip 38mm.
36b	Screwdriver (Plastic Handled)	412	5½" x 1½" Flexible Plate 140 x 38mm.	446	3" Narrow Strip 75mm.
40	Hank of Cord	427	Nut (Hexagon)	447	3½" Narrow Strip 90mm.
59	Collar with Grub Screw	428	⅜" Bolt 5mm.	448	4½" Narrow Strip 115mm.
193	2½" x 1½" Transparent Plate 63 x 38mm.	430	⅜" Bolt 19mm.	449	½" Plastic Pulley 12mm.
403	2½" Angle Girder 63mm.	431	1⅛" Bolt 29mm.	450	2" Screwed Rod 50 mm.
404	½" x ½" Double Bracket 12 x 12mm.	433	½" Bolt 12mm.	451	⅜" Washer 19mm.
405	½" x ½" Obtuse Angle Bracket 12 x 12mm.	440	5½" Angle Girder 140mm.	452	1⅞" Tyre 27mm.
		441	½" x ½" Angle Bracket 12 x 12mm.	460	Set of S/A Labels
		442	Double Bent Strip		

Meccano Limited reserve the right to alter colours and contents of sets without prior notice.