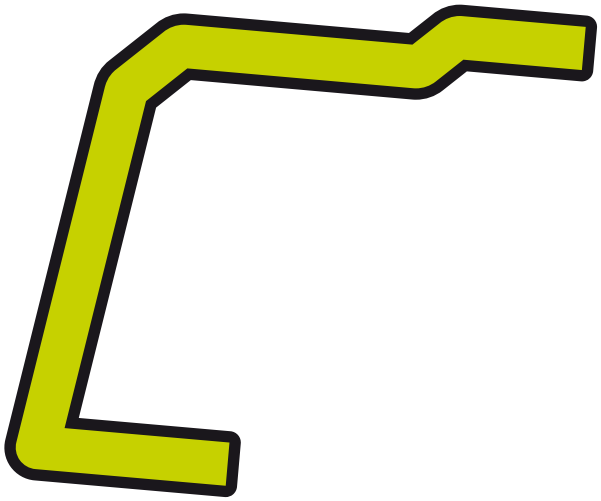


WWW.TOOWHEELS.ORG

ASSEMBLING SCHEMES

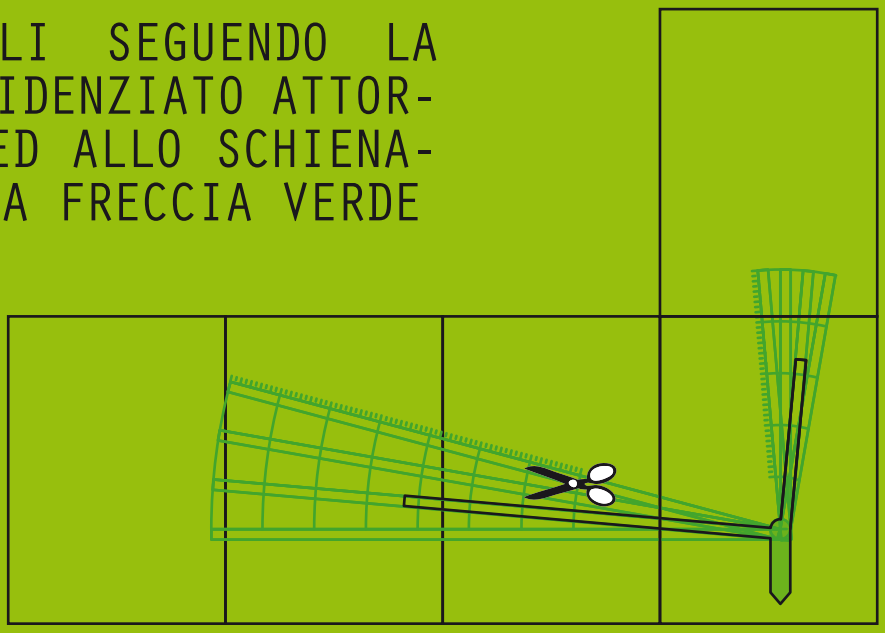
TOOWHEELS IS A DIY WHEELCHAIR, YOU CAN BUILD USING SIMPLE MATERIALS AND TOOLS: SOME PLYWOOD, SOME PIPES, SOME BICYCLE PARTS AND YOUR WHEELCHAIR IS READY!
YOU CAN CHANGE DIMENSION AND SIZE, AND IF YOU WANT YOU CAN MAKE A CUSTOM WHEELCHAIR FOR ANY NEEDS YOU HAVE!

TOOWHEELS IS A PATENT PENDING PROJECT,
RELEASED IN OPEN SOURCE VERSION (CC licence NON COMMERCIAL, SHARE ALIKE) TO BE USEFULL FOR PEOPLE ALL OVER THE WORLD. MAKE IT FOR YOUR FRIENDS, FOR PEOPLE OF YOUR CITY, MAKE IT IN A FABLAB OR A MAKERSPACE OR AT HOME!!

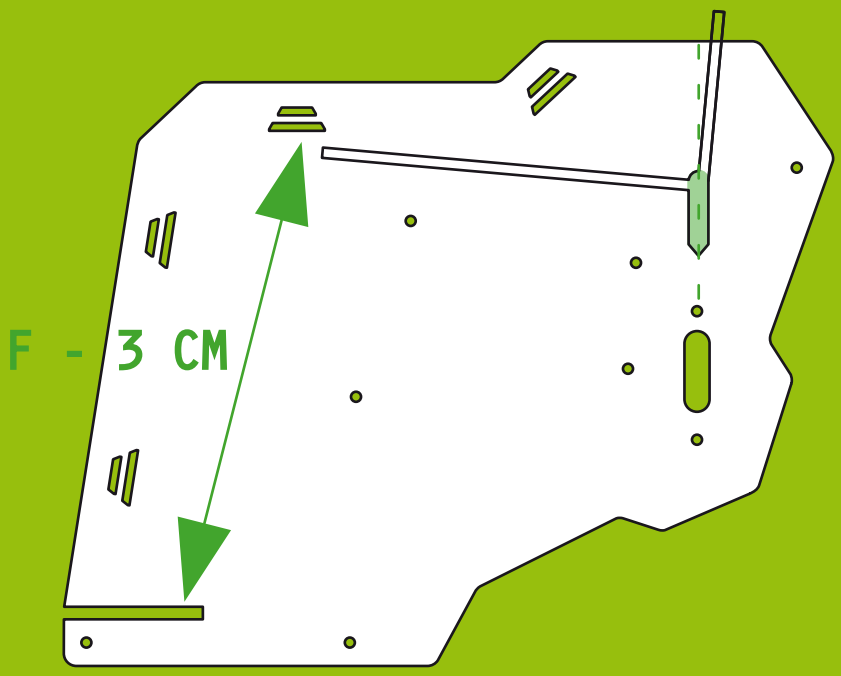
MAKE IT AND ENJOY!

FOLLOW US ON FB: **TooWheels**
SITE: **WWW.TOOWHEELS.ORG**
E-MAIL: **ALESSIOFABRIZIOGIORGIO@GMAIL.COM**

1 RITAGLIA I FOGLI SEGUENDO LA LINEA CHE HAI EVIDENZIATO ATTORNO ALLA SEDUTA ED ALLO SCHIENALE, INCLUDENDO LA FRECCIA VERDE

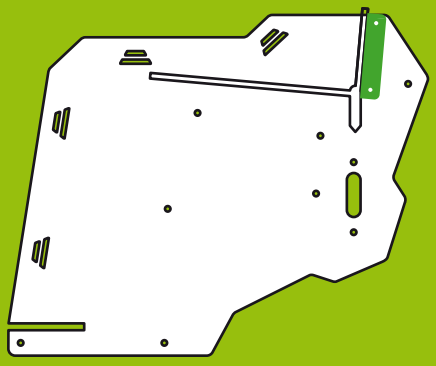


2 POSIZIONA QUESTA SAGOMA SULLA TAVOLA 2. SPOSTA LA SAGOMA LUNGO L'ASSE DI CENTRAGGIO FINO A QUANDO LA LUNGHEZZA INDICATA DALLA FRECCIA NON CORRISPONDERÀ ALLA LUNGHEZZA **F - 3 CM**



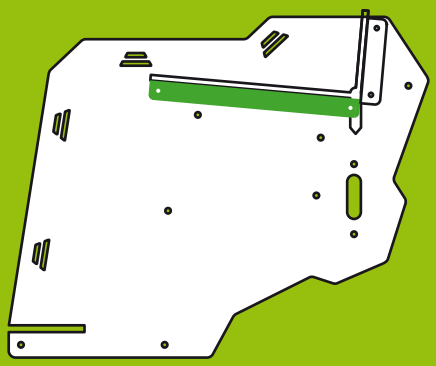
3 INCOLLA LA SAGOMA NEL PUNTO INDIVIDUATO. TI SERVIRA' PER POSIZIONARE IL SEDILE NEL MODO CORRETTO

1 CUT THE BACKREST SUPPORT AT THE SAME HEIGHT **C** OF YOUR BECKREST



2 INCOLLA LA SAGOMA DIETRO AL PROFILO DELLO SCHIENALE CHE HAI PRECEDENTEMENTE FISSATO NELLA TAVOLA 2.

3 RITAGLIA LA SAGOMA DEL SUPPORTO SEDUTA DELLA LUNGHEZZA **B-10CM**



4 INCOLLA LA SAGOMA SOTTO AL PROFILO DELLA SEDUTA CHE HAI PRECEDENTEMENTE FISSATO NELLA TAVOLA 2

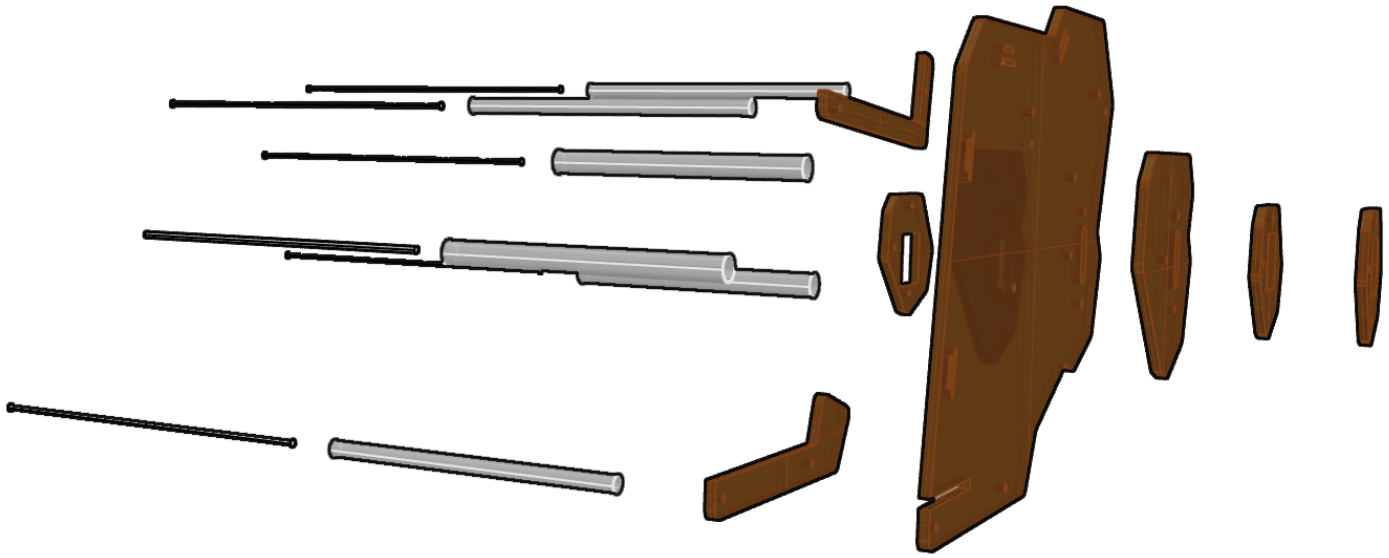
5 RITAGLIA I SUPPORTI DEI POGGIAPIEGI E GLI ALTRI ELEMENTI.

ASSEMBLAGGIO

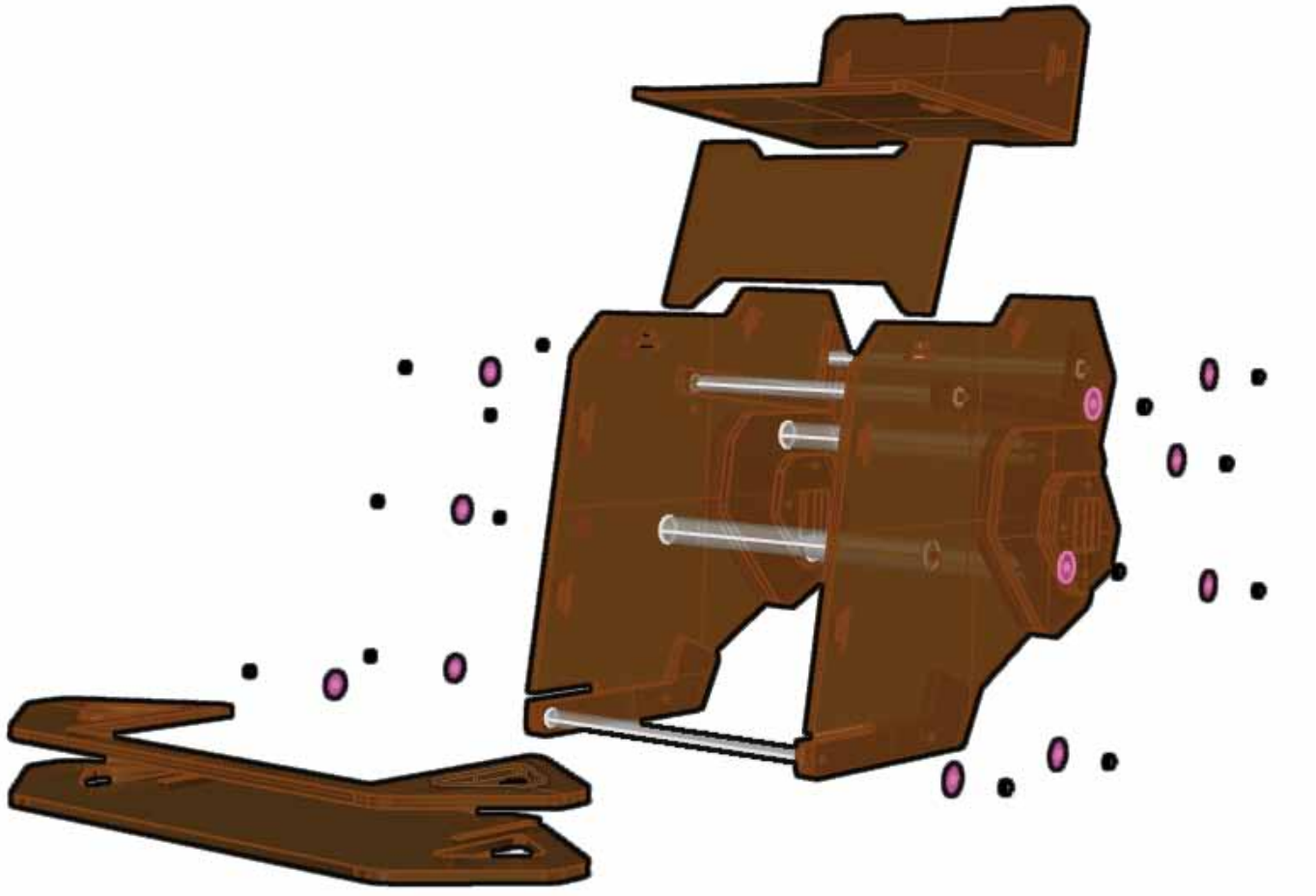
FASE 11

1 POSIZIONA I DISTANZIALI SULLA BARRA FILETTATA IN MODO CHE SIANO IN PROSSIMITA' DELLE ESTREMITA' DEI TUBI

2 INFILA LA BARRA FILETTATA ALL'INTERNO DI OGNI TUBO POSIZIONANDO UNA RONDELLA DA 32X8 A CIASCUNA ESTRE-



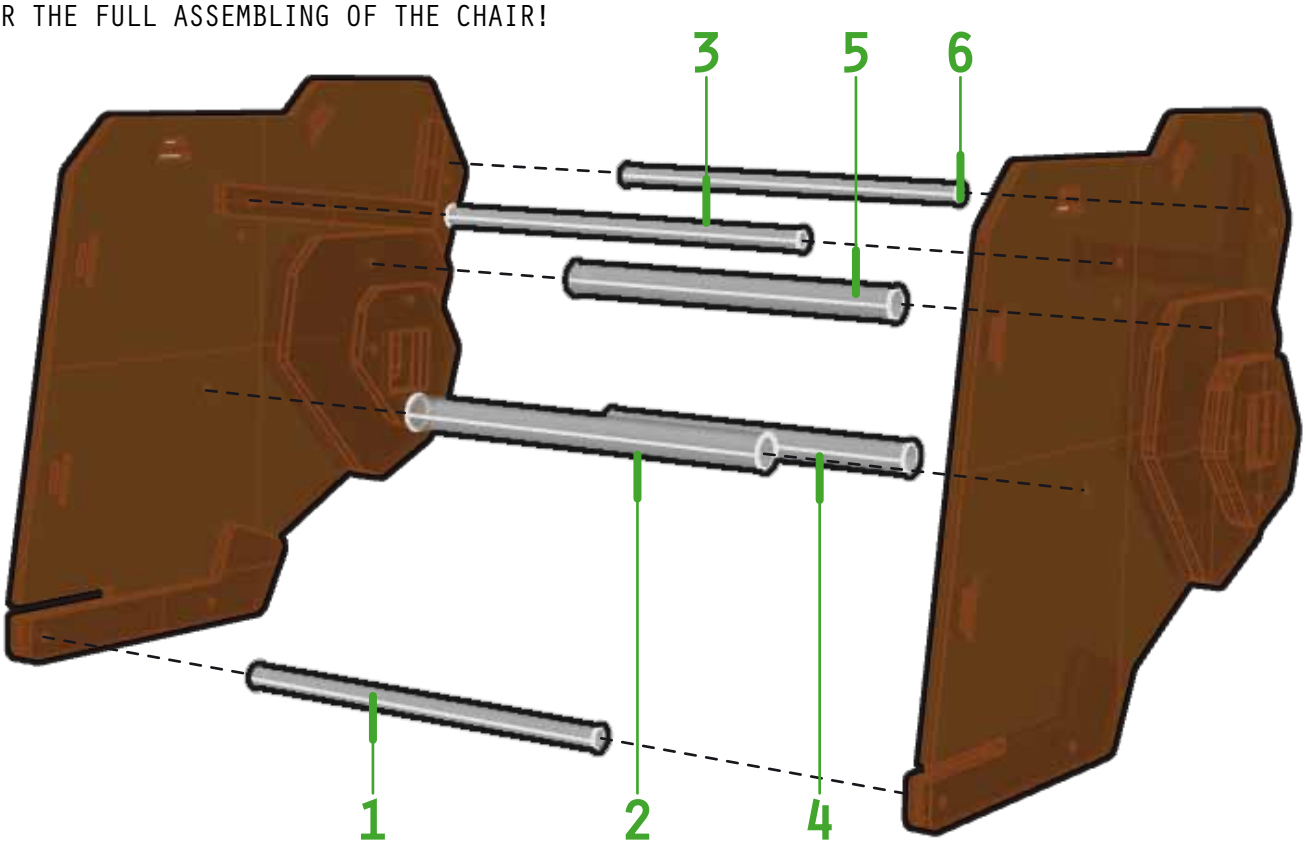
3 POSIZIONA I FIANCHETTI TAGLIATI DALLA TAVOLA 2 ALLE ESTREMITA' DEI TUBI TRASVERSALI CHE HAI MONTATO



PIPES AND RODS

CROSSING PIPES

CROSSING PIPES GIVE RIGIDITY TO THE WHOLE STRUCTURE. AT EACH SIDE OF THE PIPE, PLACE A WASHER WITH AT LEAST THE SAME DIAMETER OF THE PIPE (BETTER IF IT'S MORE). THE WASHERS ABSORB THE PIPE PRESSURE ON THE WOOD AND DIVIDE THE FORCE ON A LARGER SURFACE. EACH PIPES AND RODS HAS A DIFFERENT LENGHT, IF YOU WANT TO BE SURE OF YOUR WORK CUT OF THE EXTRA PARTS OF THE RODS AFTER THE FULL ASSEMBLING OF THE CHAIR!



1 USE MEASURE **A - 2CM**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

2 USE MEASURE **A**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

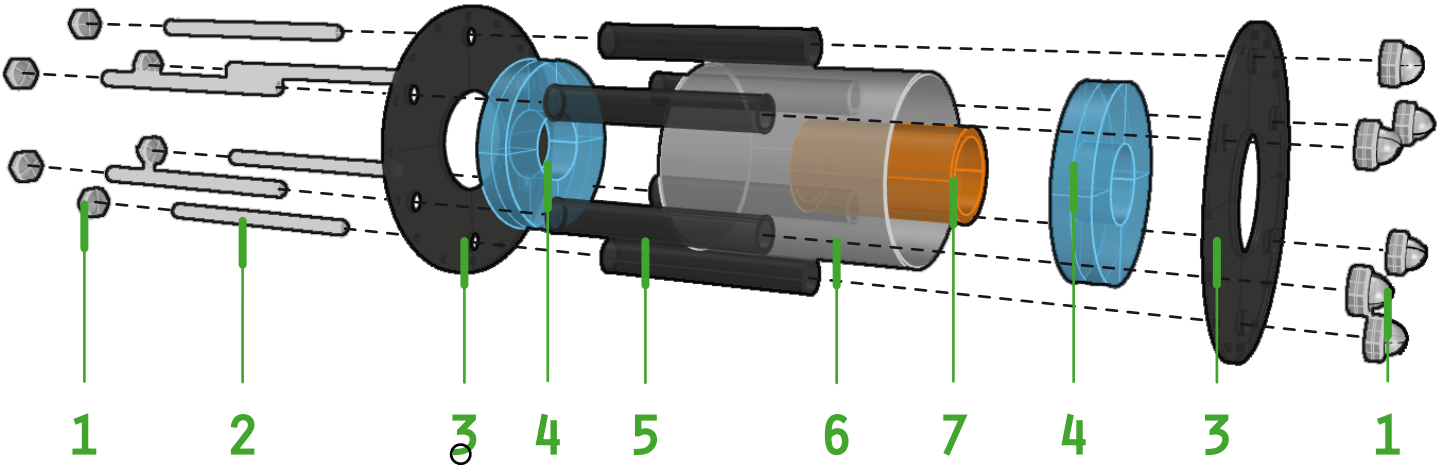
3 USE MEASURE **A**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

4 USE MEASURE **A - 6CM**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

5 USE MEASURE **A - 4CM**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

6 USE MEASURE **A**: BE CAREFUL IN SUBTRACTING ALSO THE WIDTH OF THE WASHERS, ONE OF EACH SIDE OF THE PIPE

HUB



1 NUTS M8 DIAMETER - LOCK WITH THREAD LOCKER

THE NUTS SCREWED AT THE SIDE OF THE ROD LOCKED THE STRUCTURE. FOR EXTRA RESISTANCE, USE THREAD LOCKER LIQUID, AND FOR EXTRA FINISHING USE ACROD NUTO TO CLOSE THE RODS.

2 THREAD RODS M8 DIAMETER

THE RODS PUT THE FLANGES TOGHETHER IN COMPRESSION.

3 FLANGE MAKE WITH IRON SHEET 1.25MM, EXTERNAL DIAMETER 79MM, INTERNAL 30MM.

THE FLANGE LOCK BEARINGS, RODS, SPOKES IN ONE PIECE.

4 BEARING EXTERNAL DIAMETER 42MM, INTERNAL 20 MM

IS IMPORTANT TO LET THE WHEELS RUN FAST!

5 ALLUMINIUM PIPES 6 PIECES,DIAMETER EXTERNAL 10MM,INTERNAL 6,LENGHT 65MM

THE PIPES ENCLOSE THE CORE OF THE HUB WITH THE BEARINGS, AND KEEP THE FLANGES PARALLEL.

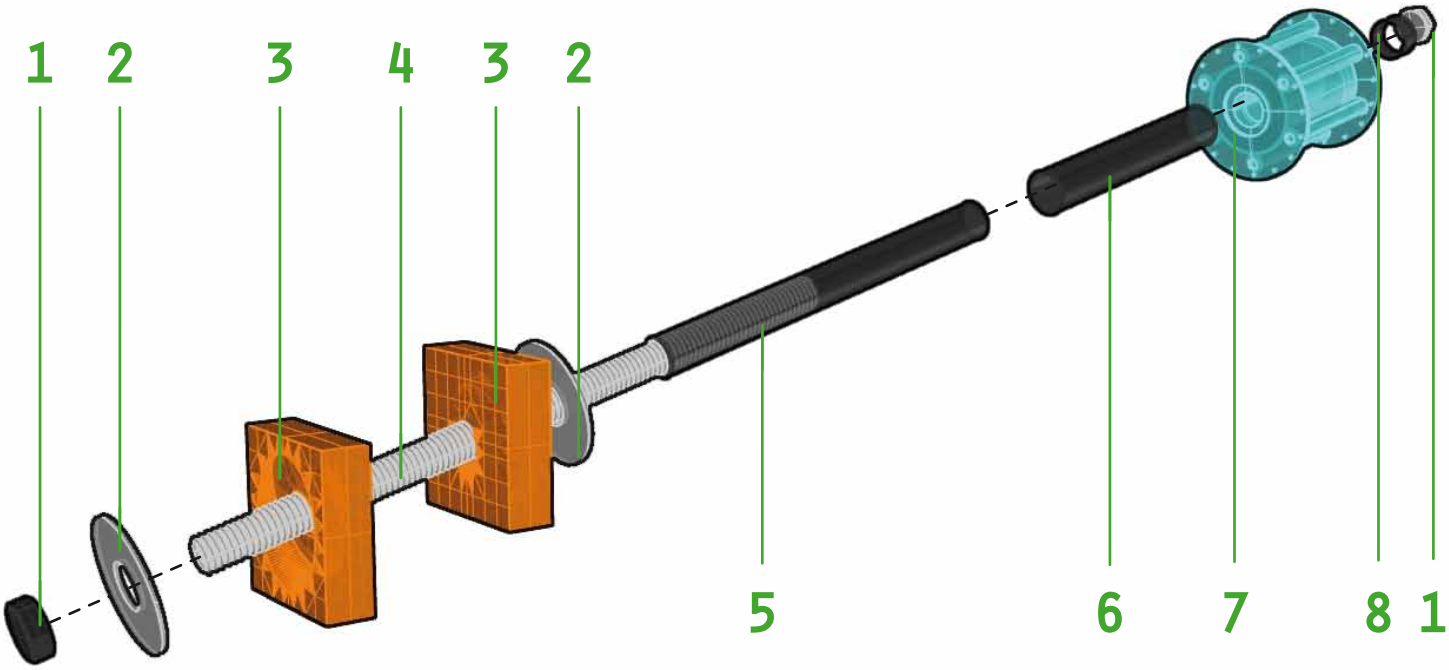
6 ALLUMINIUM PIPE ONE PIECE, EXTERNAL 45MM,INTERNAL 42MM, LENGHT 65MM

THE CENTRAL PIPE LOCK THE BEARINGS

7 NYLON PIPE EXTERNAL DIAMETER 26MM, INTERNAL 20MM, LENGHT 65MM

LET THE BEARINGS AT THE RIGHT DISTANCE INSIDE CHE CENTRAL PIPE

AXLE



1 SELF LOCKING NUTS M16

ARE FIXED AT THE EXTERNAL SIDE OF THE RODS, AND LOCK ALL THE STRUCTURE

2 WASHERS EXTERNAL DIAMETER 56MM, INTERNAL 20MM

DISTRIBUISCE LE FORZE IN PROSSIMITÀ DEL CUNEO AUMENTANDO LA SUPERFICIE SOTTOPOSTA A COMPRESSIONE

3 WEDGE

IT'S THE ELEMENT THAT GIVE AT THE AXLE THE ANGLE WITH THE STRUCTURE OF THE WHEELCHAIR, CREATING THE WHEEL DISHING.

4 THREATED ROD M16

IT'S THE INNER SIDE OF THE AXLE THAT RESIST AT ALL THE STRESS AND FORCES

5 ALLUMINIUM PIPE INTERNAL DIAMETER 16MM, ESTERNAL 20MM

AGISCE DA ANIMA DEL MOZZO, SUL QUALE SI APPOGGIANO I CUSCINETTI PER TRASFORMARE L'ATTRITO RADENTE IN VOLVENTE.

6 ALLUMINIUM PIPE EXTERNAL DIAMETER 24MM, INTERNAL 20MM

GIVE THE CORRECT DISTANCE BETWEEN THE WEDGE AND THE HUB

7 HUB

8 ALLUMINIUM PIPE EXTERNAL DIAMETER 24MM, INTERNAL 20MM, LENGHT 10MM

GIVE THE CORRECT DISTANCE BETWEEN THE HUB AND THE NUTS