



SPECTER

USER MANUAL



www.panther.tv

INTRODUCTION

Congratulations to your decision of purchasing or renting your Panther Specter Truss. We are pleased that you made your decision in favor of equipment, which combines state-of-the-art technology and many years of experience in manufacturing camera support equipment.

Selected materials and a great know-how ensures that in practice you have a wide variety of possibilities, which you will appreciate during shooting. Your new Panther Specter Truss is a high-quality and modern equipment giving the creative cameraman a new easy way to control your movements and get more flexibility.

The Panther Specter Truss is a very useful Truss-System, developed by specialists for specialists in order to meet the expectations of every cameraman or grip.

To ensure that you will love working with your Panther Specter Truss and that all requirements during shooting can be fulfilled considering utmost safety and reliability, please carefully read this user manual.

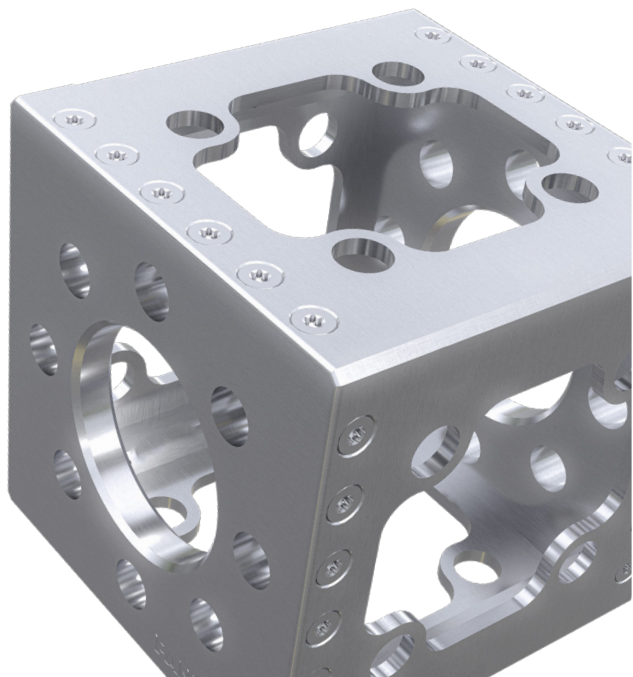
With our best wishes

Andreas Fitz

CEO | Executive President
Panther GmbH

The cut out in the Specter Truss System is called the clover. Its purpose is for weight reduction as well as accessibility inside the truss for installation. All Clovers are deburred on the inside and outside to optimize ergonomics and minimize the risk of injury.

The Specter Truss uses an 16mm hole for a M16 or 5/8" bolt. It utilizes 4 holes and one clover every 6". Specter comes in one foot increments up to 10 Feet.



GENERAL INFORMATION

SPECIFICATIONS

Load tables are based on end to end, horizontal connections of truss system.
Specific engineering calculations need to be completed for each individual structure/project.

The following instructions are the guidelines for general connections to achieve ease of construction for Specter Truss System.



All load ratings and load tables of the truss system will be based on the following assumptions:

- Loads are applied vertically to the bottom of the beam.
- The beam must be constructed with the longest pieces possible utilizing 10' max length, creating the fewest joints possible.
- All connections will use a minimum (4) bolt assemblies, utilizing the outermost hole pattern available.
- End to end connections are reinforced using at least 1x splice plate at all joints.

Recommended torque for M16 Screws with bolts: **210 Nm**

Recommended torque for M16 Screws without bolts for Aluminium accessories: **130 Nm**



Note:

All used bolts need to be grade 8 or higher!

Load Table

Load table reflects the Uniform/Centre Point Load (lbs) of the 6"x6" Specter Truss.
FEA load tests are conducted on SolidWorks and checked against live load tests to verify deflection for the given material.

Span (ft.)	Center Load (kg)	Deflection (mm)
5	3000	3
10	2000	10
15	1500	30
20	1000	50
25	900	90
30	750	120

GENERAL INFORMATION

DIMENSIONS & SPECIAL FEATURES

Specter is a next-generation modular truss system built from 6082 high grade military proofed aluminum. **It's not welded and folded – just bolted.**

Compared to other extruded and welded trusses, which are made out of 6061 aluminum, Specter uses 6082 grade which is almost up to 20% higher in strength! That's why it's one of the highest weight-to-strength truss options in the industry.

You can get Specter sizes in the common lengths: 6", 1', 2', 3', 4', 5', 6', 7', 8', 9', 10'

315161	6" x 6" Truss	
315162	1' x 6" Truss	
315163	2' x 6" Truss	
315164	3' x 6" Truss	
315165	4' x 6" Truss	
315166	5' x 6" Truss	
315167	6' x 6" Truss	
315168	7' x 6" Truss	
315169	8' x 6" Truss	
315170	9' x 6" Truss	
315171	10' x 6" Truss	



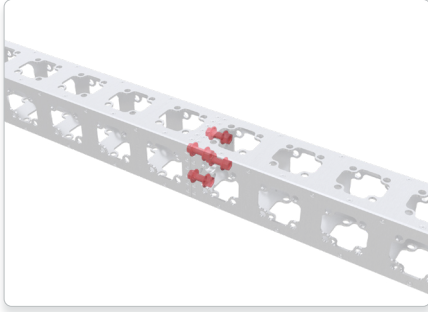
GENERAL CONNECTIONS

END TO END - CONNECTION

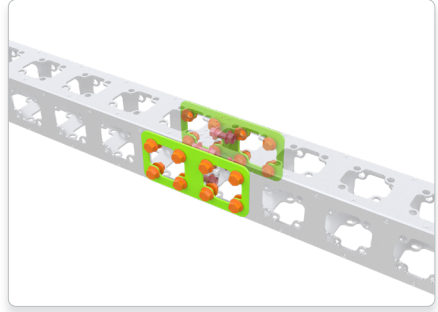
GOOD



BETTER



When making a 6"-Truss End to End connection, place **at least** 4x M16x45mm Flange Bolt with Nut sets.



For greater stability and a more reliable truss system that can withstand heavy loads, use 4x M16x45mm Flange Bolts with nuts, 16x M16x30mm Flange Bolts with nuts, and 2x 6" x 12" Splice Plates.

Used items

4x



**M16x45mm
Flange Bolt with Nut**
315251

16x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 12"**
315116



Note:

Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.



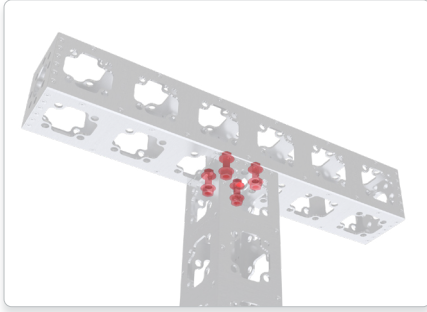
GENERAL CONNECTIONS

T - CONNECTION - 2 TRUSSES

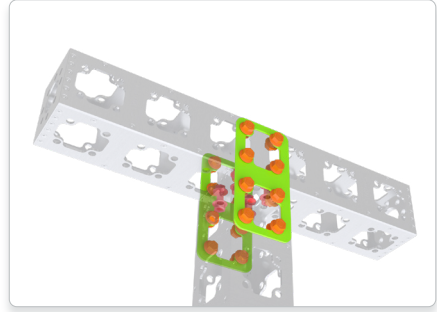
GOOD



BETTER



When making a 6"-Truss T-connection, place **at least** 4x M16x30mm Flange Bolt with Nut sets. Alternatively M16x45mm can be used too.



For greater stability and a more reliable truss system that can withstand heavy loads, use 20x M16x30mm Flange Bolts with nuts, and 2x 6" x 12" Splice Plates.

Used items

20x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 12"**
315116



Note:

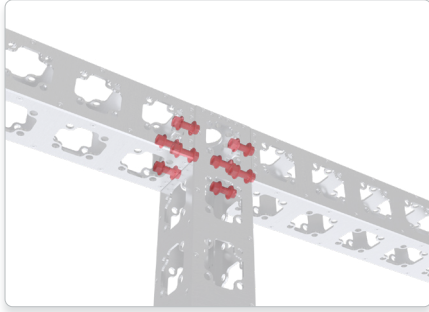
Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.



GENERAL CONNECTIONS

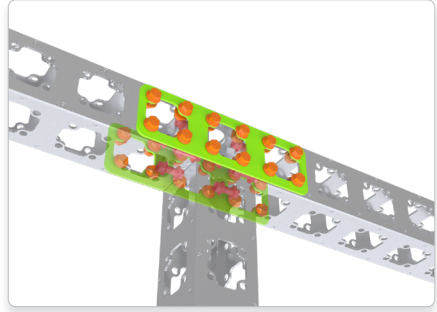
T - CONNECTION - 3 TRUSSES

GOOD



When making a 6"-Truss T-connection, place **at least** 8x M16x30mm Flange Bolt with Nut sets. Alternatively M16x45mm can be used too.

BETTER



For greater stability and a more reliable truss system that can withstand heavy loads, use 32x M16x30mm Flange Bolts with nuts, and 2x 6" x 18" Splice Plates.

Used items

32x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 18"**
315117



Note:

Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.



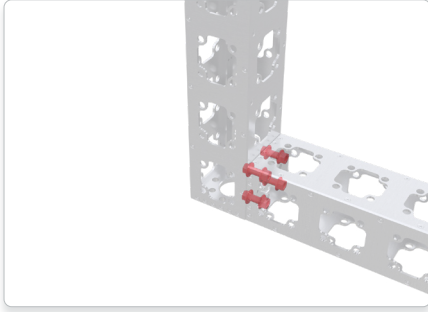
GENERAL CONNECTIONS

L - CONNECTION

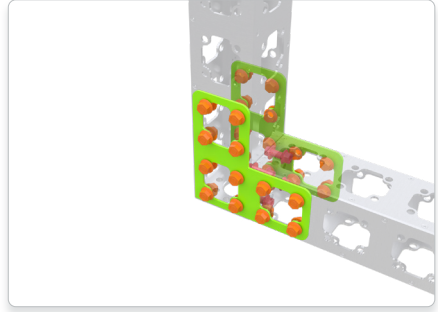
GOOD



BETTER



When making a 6"-Truss L-connection, place **at least** 4x M16x30mm Flange Bolt with Nut sets. Alternatively M16x45mm can be used too.



For greater stability and a more reliable truss system that can withstand heavy loads, use 28x M16x30mm Flange Bolts with nuts, and 2x 6" x 12" - 90° Splice Plates.

Used items

28x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 12" - 90°**
315120



Note:

Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.

GENERAL CONNECTIONS

22,5° & 45° - CONNECTION

22,5° CONNECTION



When making a 6"-Truss 22,5°-connection, place 16x M16x30mm Flange Bolt with Nut sets and 2x 6" x 12" - 22,5° Splice Plates. Alternatively M16x45mm can be used too.

45° CONNECTION



When making a 6"-Truss 45°-connection, place 16x M16x30mm Flange Bolt with Nut sets and 2x 6" x 12" - 45° Splice Plates. Alternatively M16x45mm can be used too.

Used items

24x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 12" - 22,5°**
315118

Used items

24x



**M16x30mm
Flange Bolt with Nut**
315253

2x

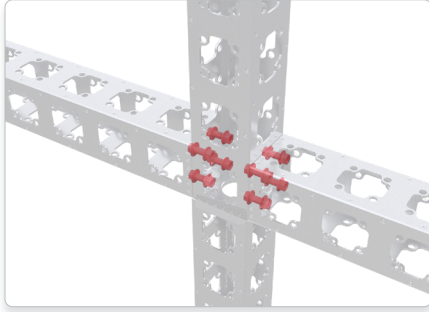


**Splice Plate
6" x 12" - 45°**
315119

GENERAL CONNECTIONS

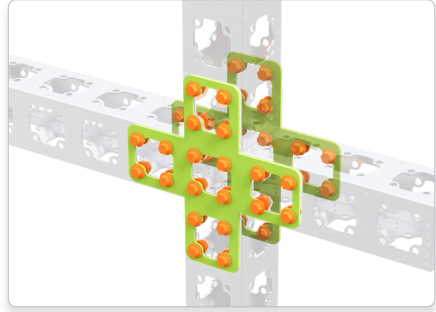
3-TRUSS - CONNECTION

GOOD



When making a 6"-Truss 3-Truss-connection, place **at least** 8x M16x30mm Flange Bolt with Nut sets. Alternatively M16x45mm can be used too.

BETTER



For greater stability and a more reliable truss system that can withstand heavy loads, use 48x M16x30mm Flange Bolts with nuts, and 2x 6" x 12" - 4 Way Splice Plates.

Used items

48x



**M16x30mm
Flange Bolt with Nut**
315253

2x



**Splice Plate
6" x 12" - 4 Way Splice**
315121



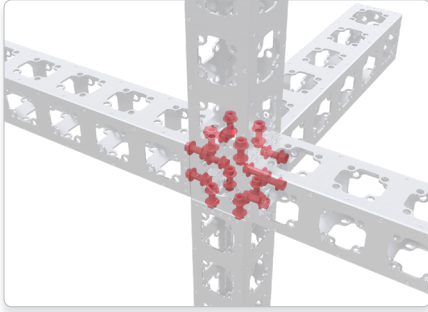
Note:

Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.

GENERAL CONNECTIONS

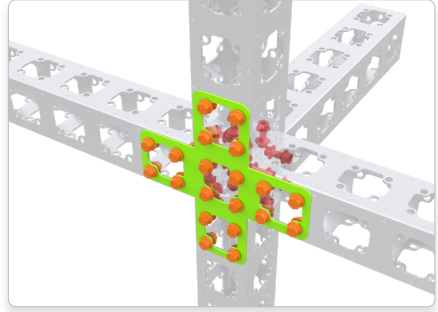
5-TRUSS - CONNECTION

GOOD



When making a 6"-Truss 5-Truss-connection, place **at least** 16x M16x30mm Flange Bolt with Nut sets. Alternatively M16x45mm can be used too.

BETTER



For greater stability and a more reliable truss system that can withstand heavy loads, use 36x M16x30mm Flange Bolts with nuts, and 2x 6" x 12" - 4 Way Splice Plates.

Used items

36x



**M16x30mm
Flange Bolt with Nut**
315253

1x



**Splice Plate
6" x 12" - 4 Way Splice**
315121



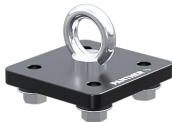
Note:

Be sure to have the orientation of the bolts as shown with the bolts tails going outside to avoid collision with the end-to end connection bolts. Splice plates should be orientated to be in tension typically on the bottom of the beam if beam is supported on both ends. The more Splice Plates you can use, the better it is.

ACCESSORIES

RIGGING

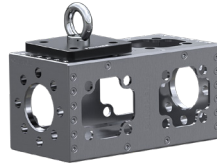
Rigging Plate 3" x 3" cpl.



315122

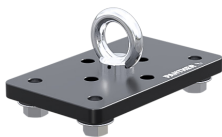
The rigging plate comes with four screws for attaching it to the Specter Truss.

Attachment & Use



Payload: 700 kg / 1500 lb
Fits on 6" x 6" and 9" x 9" Truss.

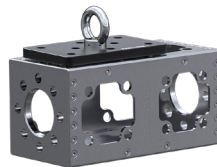
Rigging Plate 3" x 6" cpl.



315123

The rigging plate comes with four screws for attaching it to the Specter Truss. With 3x threads for eye bolt, this rigging plate 3"x 6" enables additional connection points and is adjustable to shift load weight.

Attachment & Use



Payload: 700 kg / 1500 lb
Fits on 6" x 6" and 9" x 9" Truss.

ACCESSORIES

RIGGING & LEVELLING

Scaffold Clamp for Specter 48-51mm

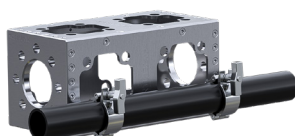


314410

Can be mounted in any hole of our Specter Truss. For pipes of diameter 48-50 mm.

Wrench Size for attachment: 17mm

Attachment & Use



Payload: 100 kg / 220 lb

If more payload is needed multiple the clamp.

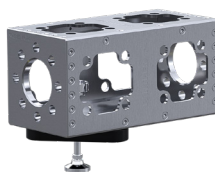
Levelling Leg for Specter



315123

The levelling leg can be attached to the Specter Truss to level it on uneven ground. When installing the levelling leg use 2x M16 screws included in the package.

Attachment & Use



Payload: 200 kg / 440 lb

If more payload is needed multiple the clamp.

ACCESSORIES

LEVELLING

Levelling Leg with Track Wheel Option for Specter

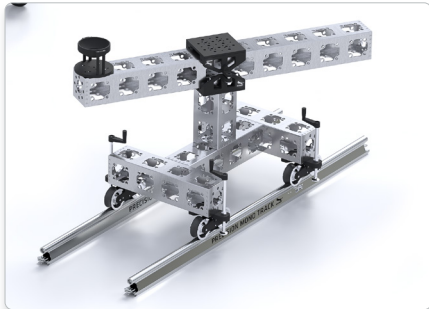


Our Levelling Leg with Track Wheel Option is mounted on the Truss to level the it on uneven ground using a crank. When installing the levelling leg with track wheel option use 2x M16 screws included in the package. It can be mounted inside the truss or at the end.

Payload: 600 kg / 1320 lb

If more payload is needed multiple the clamp.

Attachment & Use



Optional track wheels (200966) can be mounted to roll truss structure/project on tracks with 62 cm width.

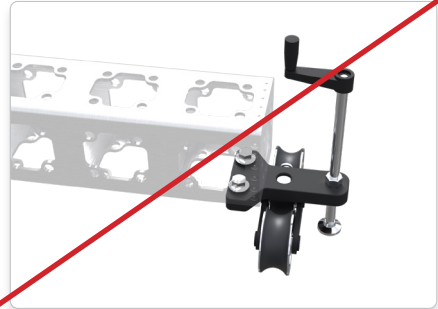


Mounting Option 1

Payload per Track Wheel Set:
400 kg / 880 lb



Mounting Option 2

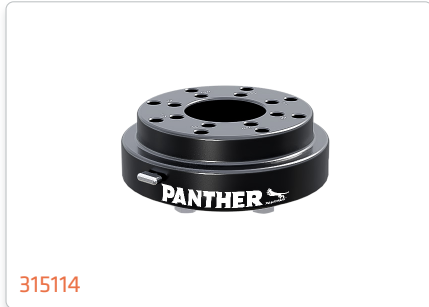


It must not be mounted self supporting!

ACCESSORIES

ROTARY ADAPTER

Rotary Adapter for Specter

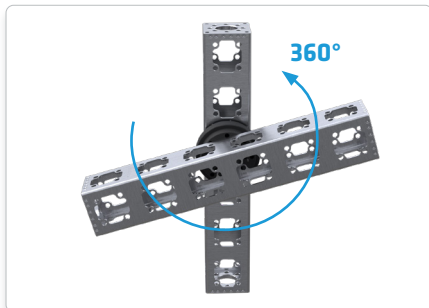


When installing the rotary adapter use 4x M16 screws per side included in the package. Alternatively 4x 5/8" screws can be used. Can be mounted on truss size 6" x 6" and 9" x 9".

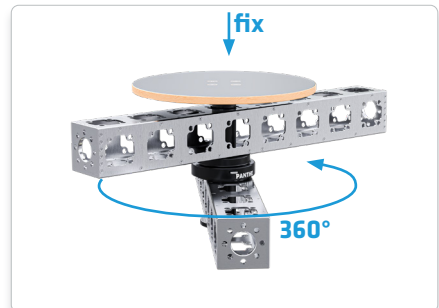
Can be assembled horizontally, vertically or upside down.

Payload: 250 kg / 550 lb

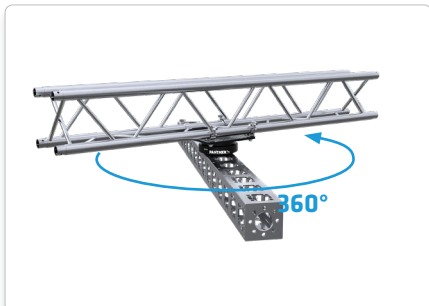
Attachment & Use



Rotary Adapter in combination with Specter Trusses. Works also with other Trusses, e.g. ModTruss, ModulusX, etc.



Use the Rotary Adapter in combination with Turntable Rig (315115) to film an object from all angles while it is on the fixed platform.



Combine our Rotary Adapter with 1x Universal Bearing Adapter (315215) to attach 1x ATC Truss.



Combine our Rotary Adapter with 2x Universal Bearing Adapter (315215) to attach ATC Trusses.

ACCESSORIES

ROTARY ADAPTER

Turntable Rig Set for Specter



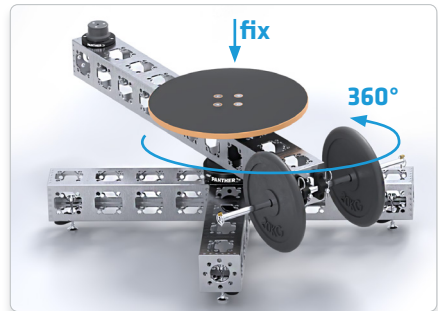
The Turntable Rig Set for Specter can be mounted through two Trusses and our rotary adapter. This makes it possible, for example, to film an object from all angles while it is on the fixed platform.

Payload: 250 kg / 550 lb

Attachment & Use



When installing the turntable rig use 4x M16 screws to connect the flange underneath the truss. Feed the tube through the truss and, if applicable, through the rotary adapter, and screw it onto the flange. The platform is screwed to the tube using the mounted flange.



Use the Turntable Rig in combination with our Rotary Adapter (315114) to film an object from all angles while it is on the fixed platform.

ACCESSORIES

HINGE

Hinge 180°



Our hinge connects two Trusses, allowing one Specter Truss to swing freely within a 180° radius.

Attachment & Use



When installing the hinge use 4x M16 screws included in the package.



ACCESSORIES

WHEELS

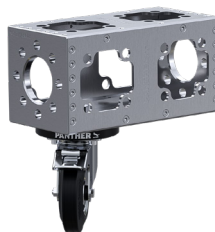
1 Wheel with Brake for Specter



315202

Attaches directly to the Specter Truss to allow for flexible movement. The brake on the wheel allow the structure to be secured in place. When installing the wheel use 4x M16 screws included in the package.

Attachment & Use



Payload: 250 kg / 550 lb (static load)
Payload: 100 kg / 220 lb at max. 4 km/h

If more payload is needed multiple it.

3 Wheels with Brake for Specter



315201

Attaches directly to the Specter Truss to allow for flexible movement. The brake on the wheel allow the structure to be secured in place. When installing the wheel use 4x M16 screws included in the package.

Attachment & Use



Payload: 750 kg / 1650 lb (static load)
Payload: 300 kg / 660 lb at max. 4 km/h

If more payload is needed multiple it.



ACCESSORIES

EURO ADAPTER & FURTHER

Euroadapter for Specter



Euroadapter attached directly to the Specter Truss.



Note:

Standard accessories for instance Euroadapter (315208) is installed using M16 screws included in packing. If the accessory has mounting holes, it can be bolted on using M16 or 5/8" bolts with nut.

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

FURTHER ASSISTANCE

If you need any further assistance with this instructions (or also other questions) please contact our service department.



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