J.J.METCALFE & SON LTD
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THE NG CULTIVATION SYSTEM



ARE YOU GETTING THE MOST OUT OF YOUR SOIL?
INCREASE PERFORMANCE AND CROP YIELD WITH THE NG SYSTEM

2026

J.J.Metcalfe & Son Ltd
Willow Garth Farm, Newby Wiske,
Northallerton, North Yorkshire, DL7 9ET

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ABOUT J.J.METCALFE & SON LTD

With a wealth of 'in field' knowledge dating back to 1947, family run company J.J.Metcalfe & Son Ltd believe in achieving the best possible crop yield from the most economically viable solutions.

Specialising in the application of tungsten carbide, J.J.Metcalfe & Son Ltd focus on manufacturing wearing parts for agriculture that provide a consistently high performance throughout a long life using high grade steels, heat treatment methods and hard facing alongside tungsten carbide.

J.J.Metcalfe & Son's extensive knowledge on the manufacture of castings and the application of tungsten carbide, means that they now supply some of the industry's largest brand names.

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The NG System: An Introduction

With soil types varying considerably in fields and farms across the country and internationally, finding a cultivation system that performs well in the majority of conditions is no easy task. With a range of shin, wing and point options the versatile NG System from J.J. Metcalfe & Son can be configured for optimum performance in all soil types.

The System has been designed with three key initiatives. First and foremost the NG System has been designed to create the best possible soil structure for the crop. In most cases gaining a higher yield per acre is more valuable than fuel or wear savings, making this the most important factor when choosing a cultivation system.

Second, the NG System achieves the above using the lowest draft possible. However it is very important to take into account how the NG is creating the right environment for the crop before considering the fuel savings, as fuel can be wasted if parts are not doing the job properly.

And lastly, the NG System is designed in such a way that the wear is reduced to a minimum. The interchangeable parts help to get the most out of each individual component and the Tungsten Carbide ensures that the system performs well throughout its entire working life.

KEY POINT> PERFORMANCE ALWAYS OUTWEIGHS FUEL & METAL SAVINGS. GET THE BEST CONDITIONS FOR YOUR CROPS!



Any summer or weathered tilth must be retained. The vertical shin of the NG prevents the break out of clods before they come to the surface.

The NG system lifts and cracks the soil relieving compaction and allowing air, water and nutrients to penetrate, encouraging healthy root growth. For the best results where compaction is concerned, the wing should run just below the compaction layer.

The rear tip of the wing applies pressure upwards and cracks the soil whilst the inner wing relieves nearer the leg.

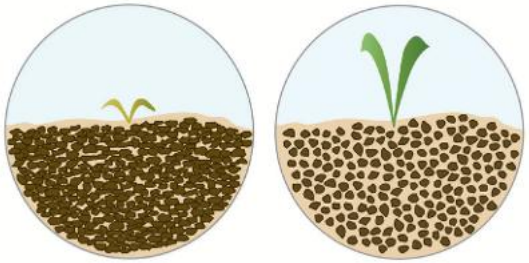
The NG systems steeper angled point increases soil shattering in dry conditions and the self-sharpening effect of the tungsten carbide prevents smearing.

The small difference in height between the wings leading edge and the point tip reduces unnecessary draft to keep fuel to a minimum.

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Creating the right environment for the crop

The NG system is designed with a small point tipped with tungsten carbide, the tungsten carbide self-sharpens as it wears and cuts a track through the compacted soil. As the point is cutting and not pushing, the compaction layers are relieved instead of being compressed further to the sides and underneath the point, giving important drainage directly where it is needed. The steep angle of the tungsten carbide tile gives powerful shattering in hard, dry conditions as well as excellent penetration.



These diagrams show how the crop suffers when in compacted ground. It is unable to establish root growth and lacks oxygen and water.

The choice of four wing widths allows the system to give the best possible life in different soil types. Tungsten carbide tips the leading edge of the wing ensuring the wing stays at its full width for its entire working life. This gives a very consistent soil structure throughout the entire field.

The wings are designed to run flat in the ground, angled to cut as level as possible this moves a large amount of earth whilst leaving a flat sub soil. Due to the nature of this, subsequent operations such as drilling and spraying will be smoother, increasing accuracy.

The unique design of the shins is incredibly important, working with the vertical leg to part clods and stones before they reach the surface. The prevention of clods reaching the surface is key in retaining summer tilth to use as cover for the crop seed. The summer tilth provides good seed to soil contact which is essential for germination.



Low draft, fuel cost reduction and minimal wear

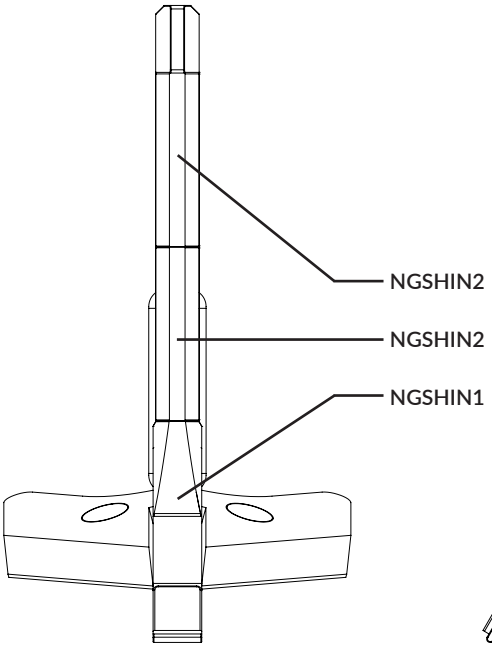
As a result of its slippery properties, the NG system glides smoothly through the ground, not only does this reduce wear but also the draft and fuel bill. The self-sharpening effect achieved by tungsten carbide further reduces draft by cutting through the soil rather than smearing.

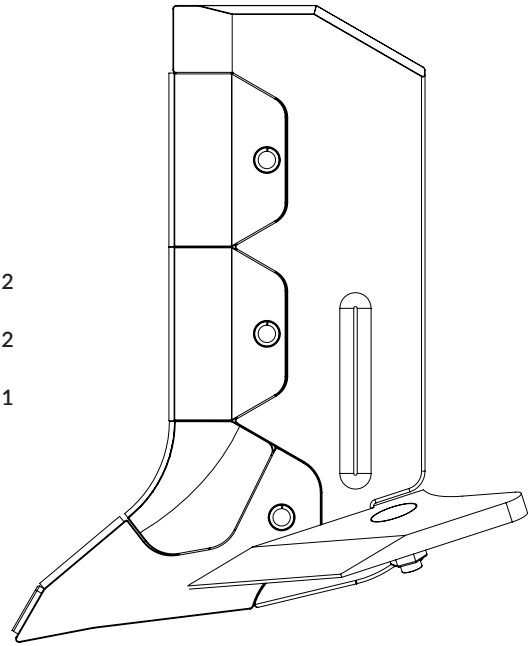
The point on the NG system is short, as the tungsten carbide prevents it from wearing, this small distance between the point and wing means no unnecessary draft or fuel is being wasted on a long point.

KEY POINT> RELIEVE COMPACTION AND RETAIN SUMMER TILTH FOR THE BEST CROP YIELD!

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FULL ASSEMBLIES





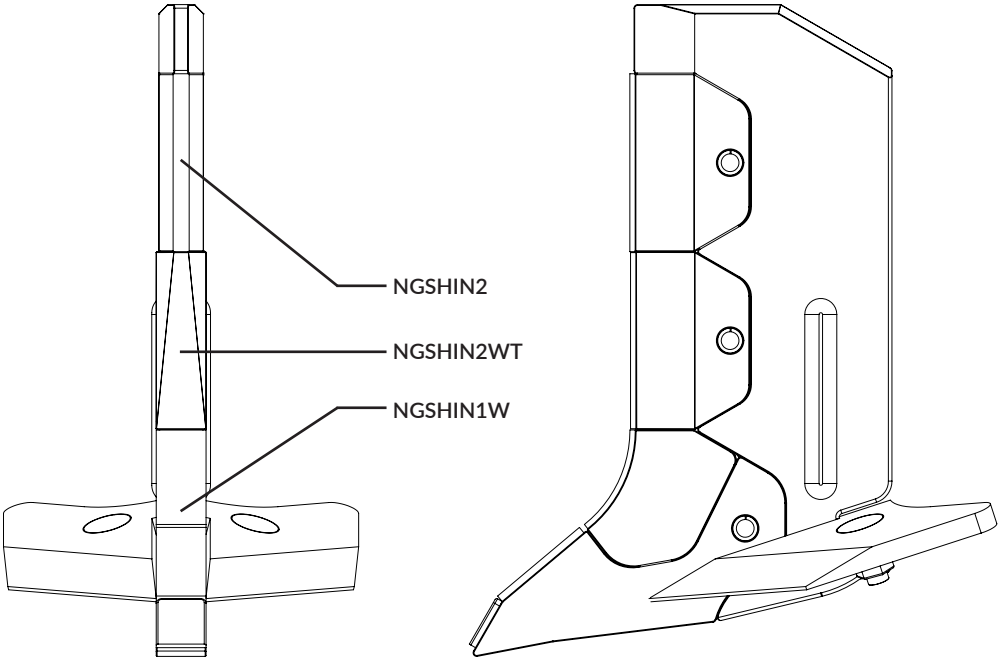


OPTION ONE

> Absolute minimum surface disturbance.
> The lowest draft option.
> 4” to 12” ideal working depth, (100mm - 300mm).

Wing Width	Option 1 Assembly Cost
100 T/C	£441.18
150 T/C	£489.99
200 T/C	£515.61
250 T/C	£537.47
300 T/C	£580.38

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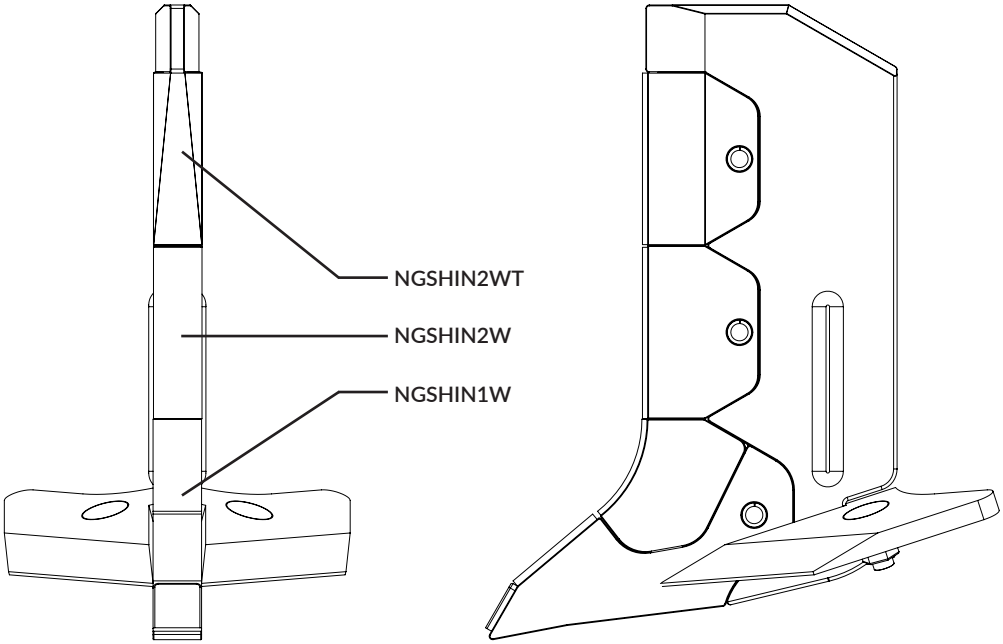
OPTION TWO

> Low surface disturbance.
> Low draft.
> Increased leg protection.
> 6” to 14” ideal working depth, (150mm - 350mm).

Wing Width	Option 2 Assembly Cost
150 T/C	£548.89
200 T/C	£574.51
250 T/C	£596.37
300 T/C	£639.28

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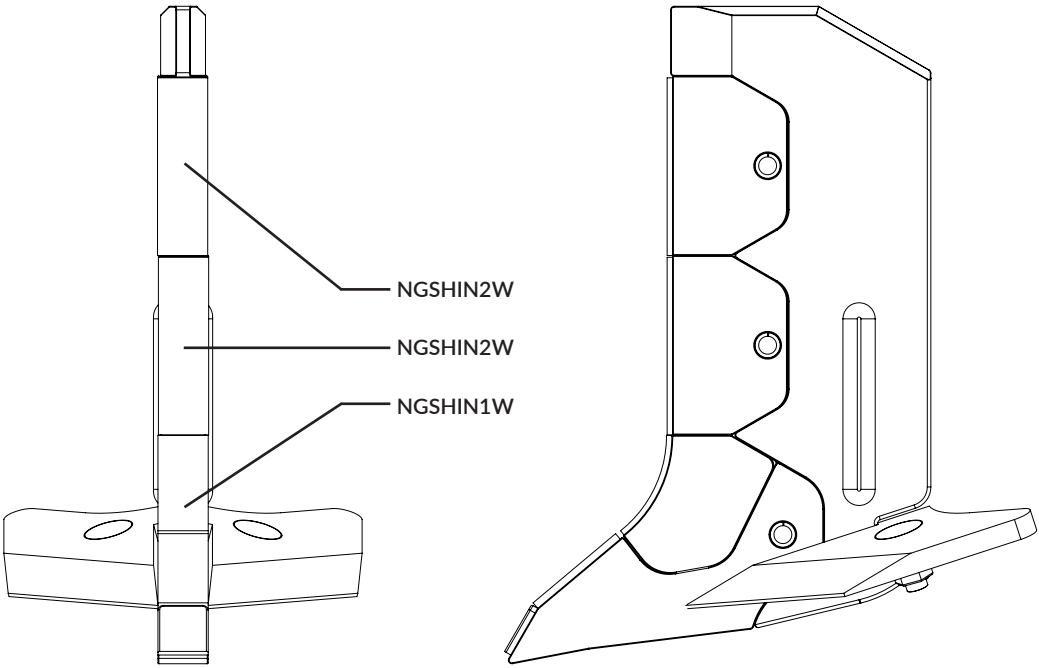


OPTION THREE

> Increased leg protection from option 2.
> 8” to 16” ideal working depth, (200mm - 400mm).

Wing Width	Option 3 Assembly Cost
150 T/C	£609.66
200 T/C	£635.28
250 T/C	£657.14
300 T/C	£700.05

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OPTION FOUR

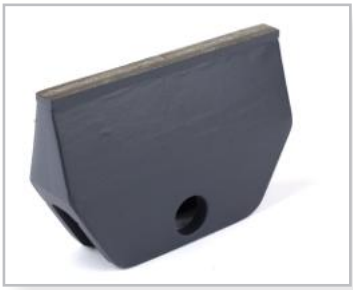
> Maximum leg protection.
> For working at depth.
> 12” to 20” ideal working depth, (300mm - 500mm).

Wing Width	Option 4 Assembly Cost
150 T/C	£618.96
200 T/C	£644.58
250 T/C	£666.44
300 T/C	£709.35

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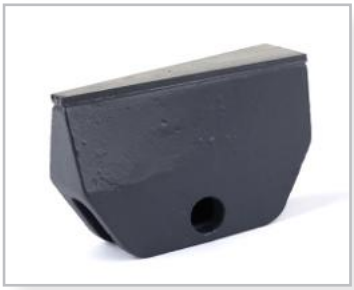
SEPARATE REPLACEABLE PARTS



NG Narrow Replaceable Shin*

Product ID: NGSHIN2

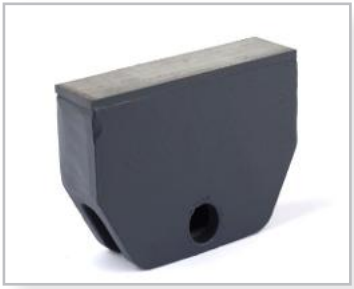
£33.03



NG Tapered Replaceable Shin*

Product ID: NGSHIN2WT

£84.50



NG Wide Replaceable Shin

Product ID: NGSHIN2W

£93.80



NG Tapered Curved Replaceable Shin*

Product ID: NGSHIN1

£55.75

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NG Wide Curved Replaceable Shin*

Product ID: NGSHIN1W

£63.18





NG Weld On Leg

Product ID: NGLEG2/NGLEG2BT

The NG System is now offered as a bolt-on leg system, in addition to the original welded leg.

£95.57



NG Replaceable Stone Point*

Product ID: NGPOINT2

£85.56

In areas of high stone content, chipping of the tungsten carbide on a standard NG point may occur. The specialised stone point features a thicker 6mm tungsten carbide tile of a tougher grade, reducing chipping to a minimum.



NG Standard Replaceable Point*

Product ID: NGPOINT

£81.60

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NG Replaceable Wing 100mm
Product ID: NGWG100T/C
£136.51



NG Replaceable Wing 150mm
Product ID: NGWG150T/C
£164.70



NG Replaceable Wing 200mm
Product ID: NGWG200T/C
£184.08



NG Replaceable Wing 250mm
Product ID: NGWG250T/C
£199.68



NG Replaceable Wing 300mm
Product ID: NGWG300T/C
£237.20

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The NG Coverplate

The specially developed coverplate helps the NG system to become even more economical. Due to the incredibly hard wearing nature of the tungsten carbide, the front edge of the wing long outlasts the steel behind it. Made from chromium boron steel the coverplate acts as a sacrificial wing, protecting the steel of the original wing and allowing the tungsten carbide to work for longer.



NG Steel Cover Plate 150mm
Product ID: NGWNG150TOP
£20.42



NG Replaceable Wing 200mm
Product ID: NGWNG200TOP
£26.66



NG Steel Cover Plate 250mm
Product ID: NGWNG50TOP
£32.92



NG Steel Cover Plate 300mm
Product ID: NGWNG300TOP
£38.31

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NG LT SYSTEM RANGE > THE NEXT STEP IN MOVING LESS SOIL

The NG LT system supplies a solution to anyone wanting to relieve compaction, whilst keeping soil zones separate and soil disturbance to a minimum. The low draft design has a lower wing angle than the original NG system, so ensuring you are only moving the soil you want to move, leaving the soil ready for drilling. The ideal working depth is 4" to 8" or 100mm to 200mm.



The point, shins, wing, and leg are all replaceable, with different options to suit individual conditions as necessary. The top bracket clamps onto 100mm box section or alternatively, a weld on bracket is available. This makes retrofitting the system onto older machines simple, or the LT system can be fitted onto subsoilers, Grange Machinery, Cultivating Solutions, Ryetec or Weaving machines.

NG Parts Marked with * are interchangeable with the NG LT system.

NG LT Complete Systems (without 100mm bracket)	
NG LT with Option 1 Shin & 100mm wing	*£400.02*
NG LT with Option 1 shin & 150mm wing	*£428.21*
NG LT with Option 1 shin & 200mm wing	*£447.59*
NG LT with Option 2 shin & 100mm wing	*£458.92*
NG LT with Option 2 shin & 150mm wing	*£487.11*
NG LT with Option 2 shin & 200mm wing	*£506.49*

These products are protected by Registered Community Design Application Number 002227322



NG LT Leg
Product ID: NGLT-LEG

£55.55



Complete Bracket 100mm Box
Product ID: JJMCSBR/100

£84.95



100mm Weld On Bracket
Product ID: JJMLWO100

£15.00



NG LT Wing 100mm T/C
Product ID: NGLTWG100T/C

£136.51



NG LT Wing 150mm T/C
Product ID: NGLTWG150T/C

£164.70



NG LT Wing 200mm T/C
Product ID: NGLTWG200T/C

£184.08

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NG SYSTEM ENDURANCE RANGE > ACHIEVE THE SAME HIGH PERFORMANCE RESULTS FOR EVEN LONGER!

The new NG Endurance range offers the same streamlined shape but with even greater longevity.

This is achieved with the use of specifically designed tungsten carbide which has been formed to sit within the existing profile of the NG shins and point. This offers an extra defence against abrasion without adding any drag.

The enhanced range will fit all existing NG systems and can be used alongside any standard NG parts meaning the end user can tailor the system to their own specific wear needs.



CURRENTLY AVAILABLE ON NG OPTION TWO SHINS

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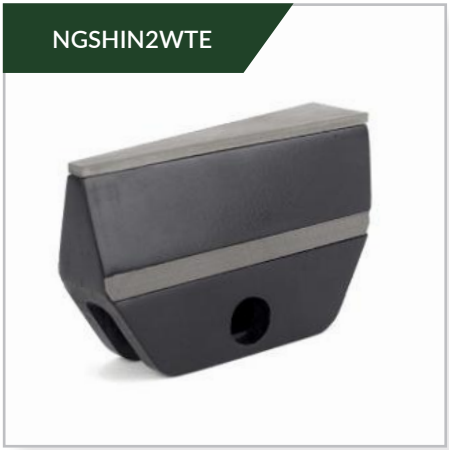
NGSHIN2E



NG Endurance Narrow Shin

£80.58

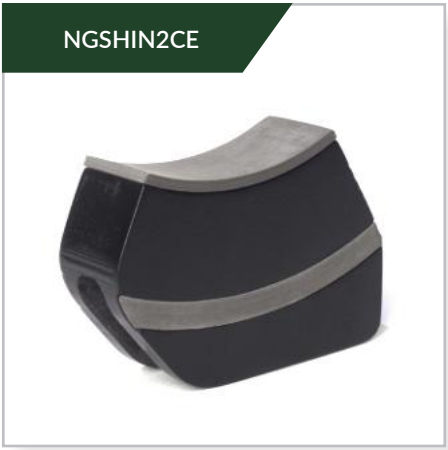
NGSHIN2WTE



NG Endurance Tapered Shin

£91.55

NGSHIN2CE



NG Endurance Curved Shin

£123.80

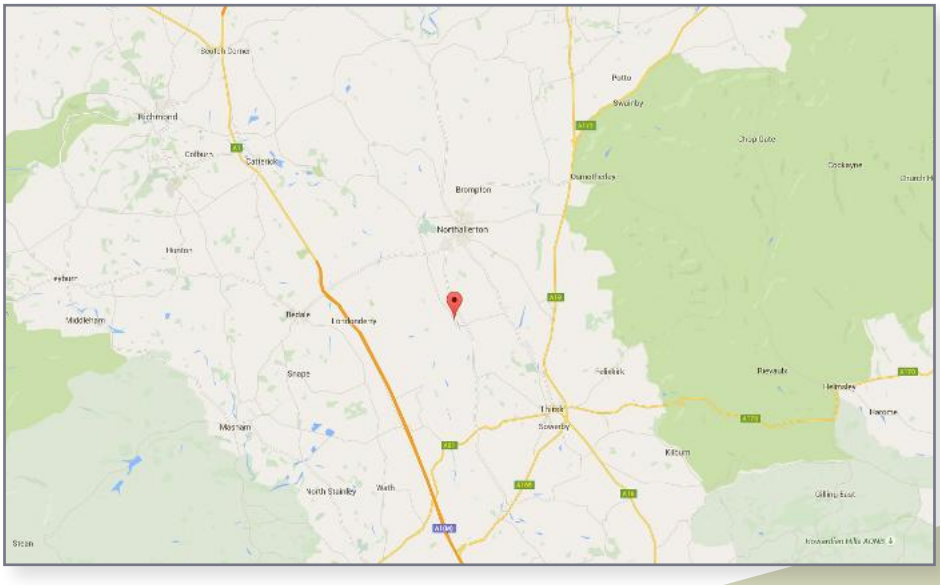
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