| ARTWORK | | | | |
|---|---|---|---|---|
| **Artist:** | Hilary Lloyd | **Title:** | *Car Wash* | |
| **Acc. No:** | T12770 | **Year:** | 2005 | **Edition:** 1/3 (1 AP) |

**Medium:**

| | |
|---|---|
| In-camera Master: | 406 coloured 35 mm master slides on different Kodak slide stocks: VS100, E100G and E200 |
| Captured with: | Canon Sure Shot / Prima / Multi Tele / 1987 |
| No of Channels: | 4 or 5 channels depending on gallery layout with 80 slides each + 6 spare slides |

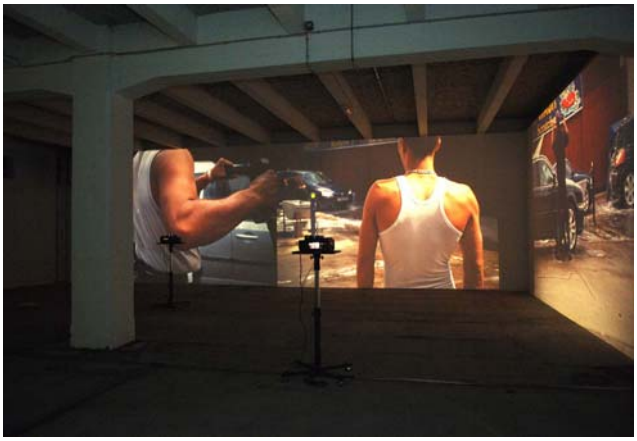
| **Dimensions:** | | |
|---|---|---|
| | Gallery space: | variable min H/W/D 3860 x 13500 x 14000 mm |
| | Projected image: | variable circa H/W 3860 x 5630 mm |

## ORIGIN

Hilary Lloyd's *Car Wash*, 2005, was acquired into Tate's collection in 2008 through Sadie Coles Gallery London after the work was first shown at Kunstverein Munich in 2006.

*Car Wash* is the result of a residency that Lloyd held in Sheffield where she captured over four weeks, the Express Hand Car Wash on Eccleshall Road. Showing men equipped with spray hoses, sponges, chamois leathers and squeegees cleaning cars by hand. Lloyd shot a total of 57 rolls of film with 36 exposures each with a total of 2,052 single exposures from which she made a selection of the images to constitute the work.

## DESCRIPTION



Installation views of previous displays

*Car Wash* was originally configured as a four-channel slide projection installation. Each projection is shown large scale from floor to ceiling with an image size of H/W 3860 x 5630 mm. The layout for the configuration of the projections inside the gallery and their position on the wall is asymmetrical as there is no uniform requirement to centre the projections in equal distance from one another. Owing to Lloyd's previous experience from showing this work twice prior to Tate's acquisition, she recommended adding a fifth channel which would make *Car Wash* more easy to configure for large elongated museums galleries.

The smallest gallery in which *Car Wash* was displayed measures H/W/D 3860 x 13500 x 14000 mm. Given the position of doorways; columns and the position of projectors themselves, there was often very little leeway for their configuration.

The slide projectors are placed on Unicol stands. The projector specified is a Kodak Ektapro 9020 given the projection size, and extra brightness required. The projections are not synchronised as such but the playback of each slide projector is controlled with a timer which is set to alternate the slides every 30 seconds. However, this should be staggered amongst the 5 channels so that there is a change every 6 sec (30sec / 5 projections). This was originally achieved by starting the projectors 6 seconds after each other.

**EXAMINATION**

Lloyd captured *Car Wash* on three different Kodak slide stocks, VS100, E100G and E200 using her pocket camera, the Canon Sure Shot Prima with Multi Tele lens (1987). During the capture, the camera exposed an error on the bottom edge of the film which was caused by a shutter bounce. This is an occurrence in which the shutter slightly opens up after it closed owing to the vibration it creates. In consequence, there is a small overexposed strip at the bottom of each slide.

The method by which the camera transported the film is not pin-registered, this means that the width of the black bar between images varies and also that the position of the image area in relation to the perforation holes is not exactly the width of eight perforation holes.

The final selection of 406 slides which make up this work are spread over 57 rolls of film which are all kept in individual sheets and in strips of six exposures. This meant that the compound table of the slide duplicator had to be able to handle continues exposure strips rather than single exposures. Lloyd provided an index which reverences which slides are to be used from which sheet:

| | | |
|---|---|---|
| 100VS | AA | 06 / 08 / 14 / 16 / 19 / 23 / 28 / 34 / 35 / 36 / 37 |
| E100G | CC | 04 / 07 / 20 / 23 / 27 / 36 / 37 |
| 100VS | DD | 3A / 10A / 12A / 13A / 14A / 15A / 16A / 25A/ 28A / 31A |
| 100VS | EE | 02 / 05 / 07 / 08 / 11 / 16 / 17 |
| 100VS | B | 08 / 20 / 24 / 25 / 37 |
| 100VS | C | 02 / 03 / 04 / 12 / 13 / 25 / 33 |
| 100VS | D | 02 / 03 / 10 / 11 / 12 / 13 / 20 / 25 / 31 / 33 |
| 100VS | E | 05 / 08 / 10 / 18 / 21 / 24 / 27 / 33 |
| 100VS | F | 02 / 05 / 16 / 17 / 18 / 34 / 35 |
| 100VS | G | 09 / 10 / 20 / 24 / 30 / 32 / 34 / 36 / 37 |
| 100VS | H | 01 / 02 / 03 / 04 / 05 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 17 / 23 / 28 / 29 / 34 |
| 100VS | I | 01 / 02 / 04 / 07 / 08 / 10 / 11 / 19 / 27 |
| 100VS | J | 03 / 04 / 15 / 31/ 32 / 34 |
| 100VS | K | 04 / 09 / 27 / 28 / 29 |
| 100VS | L | 15A / 21A / 29A |
| 100VS | M | 08 / 13 / 22 / 34 |
| 100VS | O | 12 / 19 / 31 |
| 100VS | P | 19 / 31 / 33 / 35 |
| 100VS | R | 00 / 14 / 24 / 28 / 30 / 35 |
| 100VS | S | 04 / 07 / 10 / 16 / 17 / 18 / 19 / 28 |
| 100VS | T | 14 / 17 / 27 / 31 / 33 |
| 100VS | U | 20 / 22 / 27 / 28 |
| | V | 11 / 31 |
| 100VS | W | 01 / 04 / 05 / 06 / 20 |
| 100VS | X | 17 / 27 |
| E200 | Z | 08 / 10 / 12 / 26 / 27 / 28 |
| 100VS | 089371 | 06 / 08 / 09 / 10 |
| 100VS | 089372 | 33 / 34 |
| 100VS | 089373 | 12 / 30 |
| | 089374 | 12 |
| | 089375 | 33 |
| | 089376 | 05 / 22 |
| 100VS | 089377 | 03 / 08 / 11 / 12 / 13 / 17 / 24 / 25 / 28 / 37 |
| 100VS | 089379 | 26 / 27 / 33 / 35 |

| | | |
|---|---|---|
| E100G | 089380 | 07 / 08 / 14 / 22 / 31 / 32 / 33 |
| E100G | 089381 | 02 / 04 / 09 / 10 / 13 / 16 / 17 / 26 / 27 / 28 |
| E100G | 089382 | 11 / 14 / 16 / 19 / 20 / 21 / 24 / 25 / 26 / 28 / 29 / 30 / 31 / 32 / 33 / 34 / 37 |
| E100G | 089383 | 02 / 07 / 09 / 10 / 22 / 24 / 26 / 27 / 33 / 36 |
| E100G | 089384 | 03 / 04 / 07 / 11 / 21 / 23 |
| E100G | 089444 | 06 / 10 / 11 / 13 / 20 / 22 / 23 / 24 / 25 / 29 / 30 |
| | 089451 | 04 / 06 / 09 / 13 / 14 / 19 / 26 |
| | 089452 | 07 |
| E100G | 089453 | 30 / 32 / 33 / 34 |
| E100G | 089454 | 06 / 07 / 08 / 09 / 10 / 15 / 18 / 21 / 24 / 29 / 30 / 35 / 36 / 37 |
| | 089456 | 09 / 26 / 27 |
| E100G | 089457 | 00 / 01 / 15 / 28 / 29 / 34 / 35 / 36 / 37 |
| | 089458 | 08 / 12 / 16 / 18 / 22 / 24 / 25 / 30 |
| E100G | 089 459 | 00 / 05 / 07 / 10 / 12 / 13 / 14 / 15 / 17 / 22 / 24 / 30 / 34 / 35 |
| E100G | 089460 | 01 / 05 / 07 / 09 / 14 / 15 / 16 / 18 / 19 / 20 / 22 / 25 / 26 / 36 / 37 |
| E100G | 089447 | 24 / 25 / 26 / 27 / 34 / 36 |
| 100VS | 089445 | 06 / 08 / 19 / 20 / 22 |
| 100VS | 089446 | 06 / 13 / 15 / 16 / 17 / 18 / 35 |
| 100VS | 089448 | 17 / 22 / 23 / 25 / 28 / 31 / 34 / 36 / 37 |
| 100VS | 089449 | 01 / 06 / 29 / 30 / 31 / 37 |
| 100VS | 089450 | 06 / 07 / 11 / 12 / 13 / 14 / 15 / 16 / 18 / 19 / 22 / 23 / 24 / 28 / 29 / 30 / 36 |
| 100VS | 089455 | 04 / 05 / 15 / 20 / 22 / 29 / 35 |

**ACQUISITION CHALLENGES**

At the beginning of 2009 the time-based media conservation initiated conversations with the artist to establish what Tate would be given as part of this purchase. Within a relatively short time, it became clear that this would not be a straightforward acquisition for a number of reasons, one of which was the incipient obsolescence of slide technology.

- Lloyd felt strongly that she would need to oversee the duplication process as her previous experience was in part troublesome because of her request to slightly zoom in the image areas so that the lighter exposed strip at the bottom edge would not be visible in the duplicate. This often resulted in a too large proportion of the image area being cropped as the zoom in factor was set too high, rather than taking the time to adjust each crop individually.


Lighter exposed strip at the bottom of the image

- As there was no first-generation set available from which to make duplicates, the in-camera master needed to be used. This necessitated investing substantial trust in whoever would handle the slides.
- Another challenge was that with the large scale projection size, each slide must have the right aspect ratio so that no dark grey margin would be visible inside the mount when projected. This is often caused by a small deviation of the zooming in factor so that the outer margins of the picture area of the slide may not be sufficiently covered by the slide mount later.
- Currently time-based media conservation at Tate duplicates slides in-house as the accuracy of commercial labs has proved unsatisfactory. However the level of experience required to deal with the overexposed strip at the bottom of each image would be difficult to achieve satifactorily in-house, especially as the Firence Chroma-Pro 45 copy stand that we have been using did not allow for such meticulous settings.
- Additionally, despite Tate building up a small stockpile of Kodak Slide Duplication Film Edupe, there are not enough rolls of matching stocks of same production batch that would allow archiving a work of this size, factoring in the amount of stock needed for weekly testing. Tate's in-house archiving policy for slide-based artworks is based on 1x AM (Archival Master), 1x DC (Duplicating Copy), 1x PP (Production Proof), 1x EF (Exhibition Format). For *Car Wash* this would come to a total of 1,628 slides.

**DUPLICATION PROCESS**

Since the acquisition time-based media conservation has met Hilary Lloyd every 6 months to review the situation and discuss possible new strategies for resolving the problem of long-term archiving for this work.

During this time, we have visited ISIS, one of the last remaining photography labs that offer slide duplication in London, to talk through the challenges of duplicating *Car Wash* and also its approach to quality control and its cost implications but the outcome was not conclusive. We felt we should not be jeopardising the small stockpile of Kodak Edupe or the time it takes to oversee the process when in doubt as to its ultimate success.

At the beginning of 2011 we started a new collaboration with Activity, a slide lab in south-west Germany which was able to control the processes involved more tightly than any other lab with whom we have worked before and it was then that we decided to arrange for a test to evaluate how precisely they could respond to the requirements of the artist and the individual circumstances of the work. In detail this test consisted of:

1. Compare the visual difference between the two colour slide duplicating stocks available to us Kodak Edupe and Fuji CDUII and their best possible colour filtration.
   As the in-camera originals were held on Kodak stocks there was better compatibility between the Kodak Ektachrome slide films as their colour gamut is matched across the Ektachrome Kodak film range. Fuji CDUII required a substantial amount of colour filtration to balance the slightly colder appearance of the Fuji stock which in consequence led to losing details in the light and shadow areas such as the creases in the shirt or the texture in the concrete. We agreed to use Kodak Edupe.
2. Assess the level of generational loss between the in-camera master and the 1st, 2nd and 3rd generation duplicates for both slide duplicating stocks and check how much cropping occurs from one generation to another. With this test we set out to check whether it would also be acceptable to duplicate from a first generation copy which would mean only having to deal with the lighter exposed strip at the bottom of each slide, rather than having to factor this in each time the work was duplicated. Hilary was also of the opinion that with each generation there will be additional cropping that occurs around the margins of the slide.
   In order to visualise the changes in aspect ratio between different generation duplicates, we have exposed a compound table grid on top of the test images which allows for objective judgement. The relevant aspect ratio sizes are as below. Our tests showed that there will be minimal cropping between the in-camera original and the first generation copy (H/W 0.2 x 0.5 mm) but any further duplicates from the first generation will be identical in image size and larger than the aspect ratio of a pin registered slide mount which is the crucial size that we need to remain larger as to allow for a uniform projection size.

- 35 mm in-camera original slide 24 x 36 mm
- 35 mm pin registered slide mount 23.4 x 34.8 mm
- 35 mm A.N.S.I. slide mount 23 x 34.2 mm

In regards to generational loss, we could make out minor differences between the in-camera master and the 1st generation copy when inspecting the slides over the lightbox with a loupe. However, these were only visible in certain image areas which contained very fine detail such as the signage of the carwash or the brickwork in the wall. When projected large scale there was no evidence to distinguish between the two. When looking at the same detail in resolution comparing a 1st generation with a 2nd generation dupe this becomes more prominent but was found still acceptable in an installation context.
In conclusion it was found acceptable to duplicate from a 1st generation copy in both aspects, the resemblance of image resolution and the small variation in aspect ratio.
When comparing the resolution and generational loss of both slide duplication stocks, Kodak Edupe and Fuji CDUII, it appeared that Fuji CDUII has in principle more resolving power and a finer grain but owing to the amount of filtration required to balance the colour appearance this advantage was neutralised.

3. Establish the amount of zooming in and offset required to eliminate the lighter exposed strip at the bottom margin of each slide.
   We have exposed the compound table grid on top of the test slide so that we could work from objective measures. We have looked at 100%, 101% and 102% zooming in factor combined with offsetting the centre of the image to 0.1mm and 0.2 mm upwards. This meant that we could exactly determine how much cropping was indispensable without having to lose the same amount along the top margin. We therefore adjusted the position of the slide on the compound table so that the centre of the image would be moved upwards which meant that most of the lighter exposed strip would already become invisible. The best results were achieved with 102% zoom and 0.2 mm offset. In comparison to duplicates that were made at earlier occasions, this showed a real improvement on how much the cropping could be reduced to the minimum that was needed.
4. Ascertain that the image size and registration is uniform throughout and would fit in an appropriate slide mount. Despite small variation of the in-camera originals, the chosen settings worked across all 406 slides in the desired way. As appropriate slide mount for display purposes, Wess AAA002 slide mounts were chosen.

**DUPLICATION RESULT**

After the assessment of the test results which found Hilary's total approval and in the light that this might be the last chance to be able to duplicate this work using analogue technology, it was also decided to approach Hilary's two commercial galleries to see whether they would consider ordering additional duplicate slide sets for the two remaining editions of this work. Between all the stakeholders, we have placed an order of 10 duplicate sets with Activity. With the increase of duplicate sets required it was possible to reduce the cost per slide from €4.50 to €3.80 which made it worthwhile for all parties. For identification purposes, each strip of 10 exposures contained a reference slide which included the number of the index sheet and the individual slide number. The total amount of duplicated slides that this job constituted of came to 4,060.

Final: 406 slides with 10 sets of duplicates

**ARCHIVING AND STORAGE**

As part of the revised procedures of keeping slide-based artworks inside a cold store which is set at -10°C and 30% RH, it was decided to leave the duplicates in strips of four exposures, the same way they were received – rather then mounting them individually. This has the advantage of saving staff time and keeping a pool of slide mounts to be shared across a number of works which is more efficient given the resource available.

**EQUIPMENT LIST**

- 5x Kodak Ektapro 9020 Slide Projectors (please allow for 1x additional spare projector)
- 5x Kodak Slide Carousels
- 5x Kodak Perspective Control, fixed focus, ISCO-OPTIC lenses
- 5x Unicol stands consisting of: base with jacking feet (S) 45 x 55 cm / telescopic column (3350) 84 to 128 cm / tilting platform (TGB) 45 x 45 cm
- 1x Synchronisation Program File for Dataton Pax or Smart-Pax
- Slide synchronisation control unit Dataton Pax

**REPORT CREATED**

by: Tina Weidner Date: August 2012